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*Prepped by Ollie Stewart*

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*Docket Number:*

**A-91-46**

A-91-46  
IV-D-20

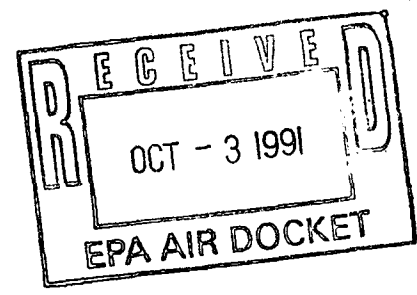
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October 2, 1991

Environmental Protection Agency  
Public Docket A-91-46  
Air Docket (LE-131)  
401 M Street S. W. Room M-1500  
Washington, D. C. 20460



**re:Docket A-91-46 (Ethyl Hitec 3000 MMT Waiver Application)**

Petro-Canada is one of the largest retailers of gasoline in Canada and attached is a copy of our annual report which describes our operations.

In support of Ethyl's waiver application, we at Petro-Canada wish to relate our experience with the use of MMT in unleaded gasoline.

In common with the other major gasoline producers, we have sold MMT containing gasoline in Canada since 1976 at up to twice the concentration applied for in the above waiver. Thus Canadian automobiles have collectively been exposed to MMT for many millions of miles and many individual vehicles to well over 100000 miles of operation. We have not had a single complaint referencing catalyst plugging.

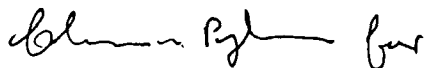
In addition, our research department has examined a number of catalysts from our high mileage in-house test fleet without finding any evidence of catalyst plugging. In addition our research department have had tail pipe emissions carried out by the Ministry of Transportation of Ontario on this fleet and on two Mercury Sables one of which was run on MMT free gasoline and the other on MMT containing gasoline for 80000 km. All the fleet with the exception of one car who's catalyst was virtually destroyed because of a

non MMT related problem met the emission standards the cars were designed for after up to 160000 km of operation on MMT containing gasoline. The results from the testing of the two Sables which were matched cars run on identical service on matched dynometers were very similar with the emissions from the MMT free gasoline being numerically slightly poorer than with the MMT gasoline.

We have discussed the issue several times with the auto manufacturers and are aware of their concerns; however they have not submitted any evidence to us that MMT is associated with catalyst plugging or other failure.

In summary, Petro-Canada has found MMT to be a cost effective means of achieving the required octane levels in unleaded gasoline. We are not aware of any catalyst related problems that would preclude its use at even twice the concentration applied for in the waiver application.

Yours truly,



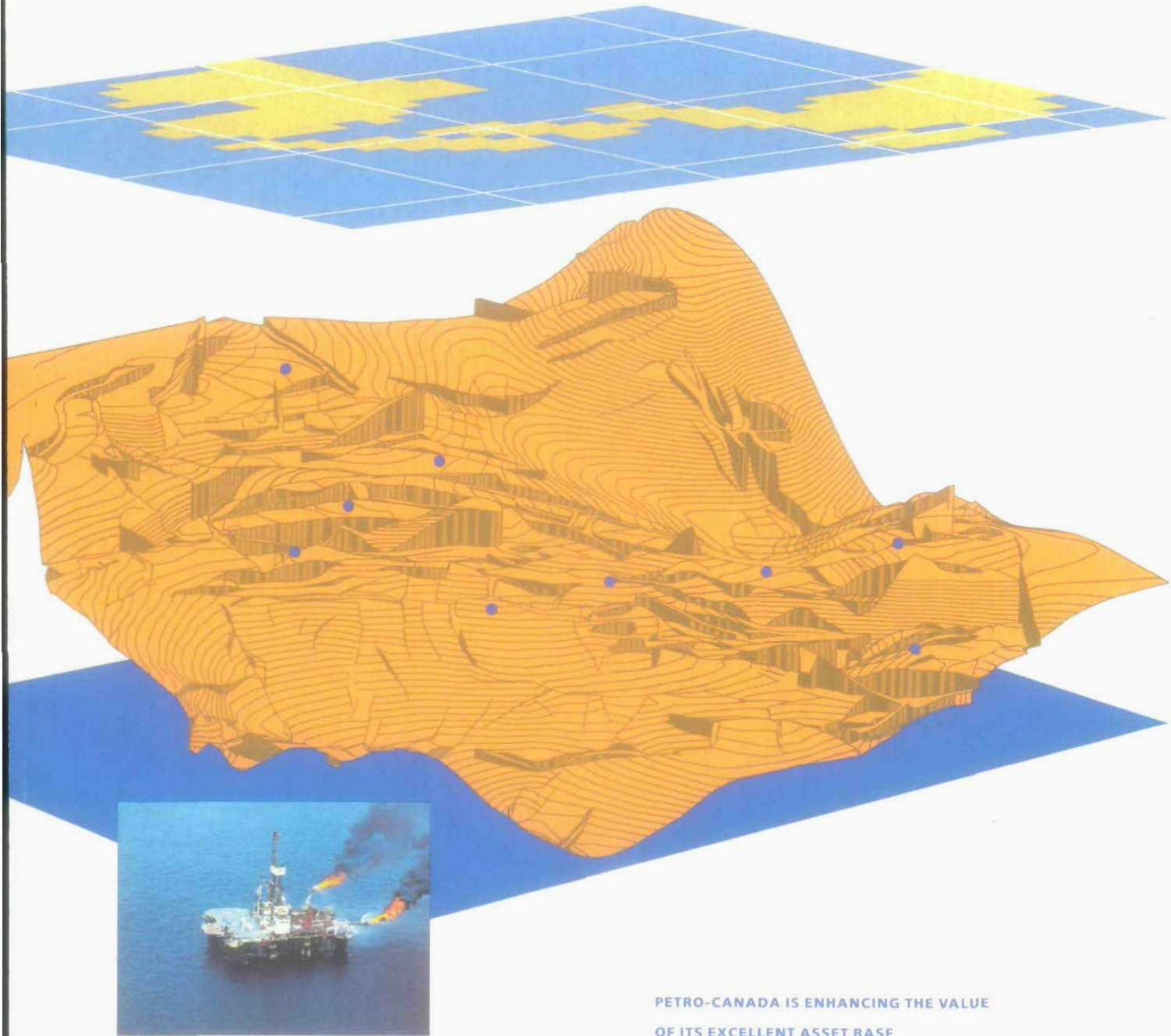
R. E. Dart  
Senior Director Refining

attachment

cc Mary T. Smith  
Director Field Operations and Support Division (EN-397F)  
U. S. Environmental Protection Agency  
401 M Street S. W.  
Washington, D. C. 20460

Petro-Canada

A-91-46  
IV-D-20



PETRO-CANADA IS ENHANCING THE VALUE  
OF ITS EXCELLENT ASSET BASE

1990 ANNUAL REPORT



PRINTED ON RECYCLED PAPER

## Corporate Profile

Petro-Canada is the largest Canadian-owned oil and gas company, with assets of more than \$7 billion and revenue of nearly \$6 billion in 1990. It ranks among the leaders in virtually every aspect of the Canadian oil and gas industry.

The Company is organized into two operating divisions and a small corporate staff. Petro-Canada Resources, the "upstream" business, explores for, produces and markets crude oil, natural gas, natural gas liquids and sulphur. The "downstream" business, Petro-Canada Products, refines crude oil and distributes and markets petroleum products and related goods and services. ICG Propane Inc., a wholly owned subsidiary, is Canada's second largest propane retailer.

Working initially to a public policy mandate, Petro-Canada has evolved over time into a fully commercial company. In February 1990, the Government of Canada announced its intention to proceed with the privatization of Petro-Canada.

## The Petro-Canada Public Participation Act

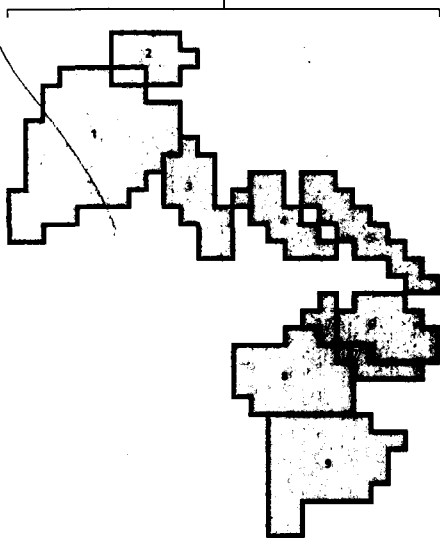
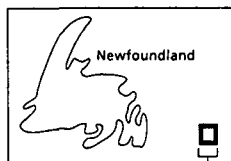
On February 1, 1991, the Petro-Canada Public Participation Act received Royal Assent.

The immediate effects of the Act were:

- The name of Petro-Canada, the Crown corporation which was incorporated in 1975 by the Petro-Canada Act, has been changed to Petro-Canada Limited.
- The name of Petro-Canada Inc., the principal operating subsidiary, has been changed to Petro-Canada.
- The shares of Petro-Canada held by Petro-Canada Limited have been transferred to the Minister of State (Privatization and Regulatory Affairs).
- Petro-Canada is authorized to issue and sell shares.

An initial public offering of Petro-Canada shares is anticipated when market conditions are appropriate. The Government of Canada has indicated its intention to sell, over time, all its shares in Petro-Canada.

For clarity and continuity with future years, the term Petro-Canada in this report refers to the company now called Petro-Canada and formerly called Petro-Canada Inc.



Significant Discovery Areas

- 1 Hibernia\*
  - 2 Nautilus
  - 3 Mara
  - 4 South Mara
  - 5 North Ben Nevis
  - 6 Ben Nevis
  - 7 West Ben Nevis
  - 8 Hebron
  - 9 Terra Nova
- \* Commercial Discovery Area

### THE COVER

Petro-Canada has the best position of any company for development of the oil resources of the Jeanne d'Arc Basin off Newfoundland.

The cover illustrates a 3-D perspective of a seismic time-structure map of a Cretaceous-aged zone within the central Jeanne d'Arc Basin, viewed from the northeast. Dots indicate significant discoveries in which Petro-Canada participated. Other discoveries lie beyond the borders of this map.

Inset photo: 1988 production test at one of Petro-Canada's Terra Nova discovery wells.

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## Highlights

<b>FINANCIAL</b>	<b>1990</b>	<b>1989</b>
Net earnings (millions of dollars)	<b>181</b>	20
Cash flow from operations (millions of dollars)	<b>621</b>	452
Expenditures on property, plant and equipment and exploration (millions of dollars)	<b>643</b>	568
Cash flow return on capital employed (per cent)	<b>13.6</b>	10.4
Return on capital employed (per cent)	<b>6.0</b>	2.7
Return on equity (per cent)	<b>7.2</b>	0.8
Average capital employed (millions of dollars)	<b>5 812</b>	5 566
Shareholder's equity (millions of dollars)	<b>2 671</b>	2 377
<b>OPERATING</b>	<b>1990</b>	<b>1989</b>
Crude oil and field natural gas liquids production, net before royalties (thousands of barrels per day)	<b>94</b>	100
(thousands of cubic metres per day)	<b>15.0</b>	15.9
Natural gas production, net before royalties (millions of cubic feet per day)	<b>498</b>	573
(millions of cubic metres per day)	<b>14.1</b>	16.2
Proved reserves, net before royalties (millions of oil equivalent barrels)	<b>1 040</b>	1 106
(millions of oil equivalent cubic metres)	<b>165</b>	176
Crude oil processed (thousands of cubic metres per day)	<b>43.6</b>	46.5
(thousands of barrels per day)	<b>274</b>	292
Petroleum product sales (thousands of cubic metres per day)	<b>42.7</b>	44.4
(thousands of barrels per day)	<b>269</b>	279

## CONVERSION FACTORS

To conform with common usage, imperial units of measurement are used in this report to describe exploration and production while metric units are used for refining and marketing. Dollars are Canadian unless otherwise stated.

1 barrel	=	0.159 cubic metre	1 cubic metre	=	6.29 barrels
1 cubic foot	=		1 cubic metre	=	
(natural gas)	=	0.028 cubic metre	(natural gas)	=	35.31 cubic feet
1 imperial gallon	=	4.55 litres	1 litre	=	0.22 imperial gallon
1 acre	=	0.405 hectare	1 hectare	=	2.47 acres
1 ton (long)	=	1.016 tonnes	1 tonne	=	0.984 ton (long)
1 mile	=	1.609 kilometres	1 kilometre	=	0.62 mile
1 barrel of oil	=	5 803 cubic feet	1 cubic metre of oil	=	1 034 cubic metres
	=	of natural gas		=	of natural gas
	=	(energy equivalent)		=	(energy equivalent)

## Chairman's Message

Petro-Canada's financial results for 1990 show a marked improvement over the previous year. Net earnings increased \$161 million to \$181 million. Cash flow of \$621 million was up 37 per cent. External events, notably periods of high crude oil prices, certainly contributed to this result. But Petro-Canada also gained clear benefits from the change programs described in the 1989 Annual Report. These results are encouraging, though there is still much work to do. Return on capital employed rose to 6.0 per cent – an improvement, but not yet satisfactory. Implementing our strategies for change is a major undertaking and takes time, but we are confident we are on the right road, striking at the fundamentals, particularly in managing our cost structure.

Crude oil prices continued to drive the external business environment in 1990. Prices exhibited extreme volatility, falling early in the year, rising dramatically following the invasion of Kuwait, then declining toward year end. The periods of high prices increased revenue from our oil production, though natural gas prices remained low. However, high crude prices increased the working capital required in the downstream business.

While prices rose and fell in response to events in the Gulf, the fundamentals of world supply and demand changed little. Petro-Canada has not altered its business plans. We remain determined to structure our businesses so they are sound even in times of low oil prices.

Resources division earnings for 1990 were \$203 million, up 128 per cent from 1989. Production was down, largely due to the continuing depletion of mature fields and the sale of less profitable producing properties.

Binding agreements to proceed with the Hibernia offshore oil project gave us particular satisfaction in 1990. In 15 years of operations, Petro-Canada has gained a leading position on the East Coast. It shares in every significant development prospect and operates Terra Nova, which is poised to be the next major Canadian offshore oil field to move to production. Our investments have been substantial, but returns have remained beyond the horizon. In 1990, that changed. The start of construction on Hibernia is a vindication of our faith in the potential of the East Coast. It is also symbolic of Petro-Canada's future. With an unrivalled position, Petro-Canada is certain to be at the centre of ongoing East Coast development.

An important 1990 exploration success came at Klua in British Columbia. Klua reflects the way our new organization empowers our people to seek success. A team of explorationists, engineers and technical specialists quickly followed up on the initial discovery well to lock up the play and launch development of the field. Production and cash flow from Klua is expected by the end of 1991.

The Products division achieved earnings of \$126 million in 1990, up 21 per cent from 1989. Our ability to recover higher crude costs and the benefits we have realized from the strategies initiated in 1989 contributed to this success. However, we anticipate lower earnings in early 1991. Our refined product margins will narrow because of the high crude costs in year-end inventories.

Volumes declined, due partly to the economic downturn but also in part to the divestment of some of the lowest-margin business through continued rationalization of the marketing network.

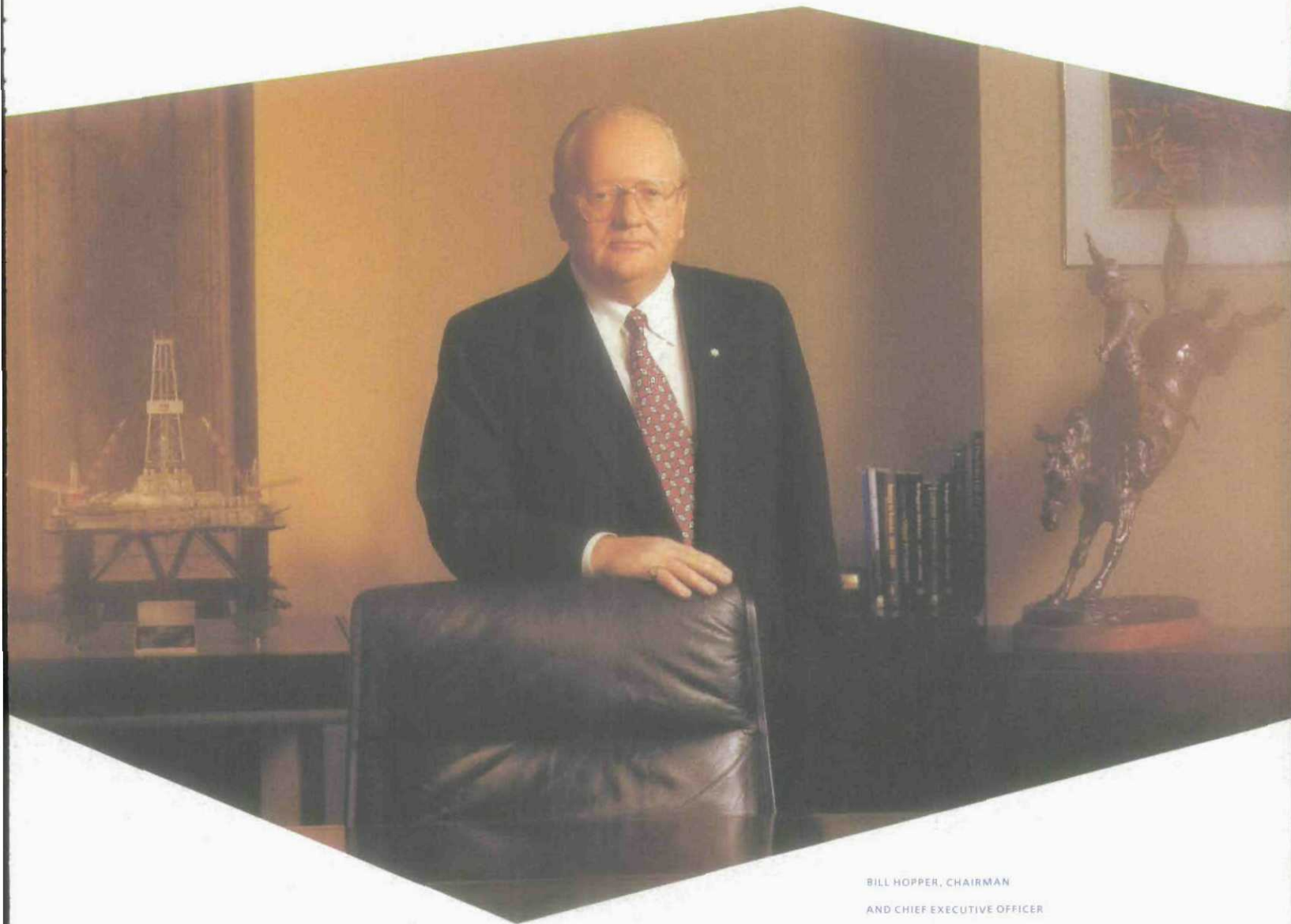
**The most significant event of 1990 for Petro-Canada was the announcement February 20 that the Government of Canada would move to permit direct public investment in the Company.**

**The Petro-Canada Public Participation Act was introduced in the House of Commons on October 1 and received Royal Assent on February 1, 1991. Petro-Canada will proceed, when market conditions are appropriate, with an initial public offering. The Government has stated it will, over time, sell all its shares in Petro-Canada. In the meantime, it will manage its shares as an investment and will not intervene in the management or direction of the Company.**

**Petro-Canada's transition from Crown corporation to the private sector marks completion of its evolution into a fully commercial company, competing in the oil and gas industry on the same basis as other companies.**

**I firmly believe privatization is the key to the ongoing success of Petro-Canada as a Canadian leader in the petroleum industry. Petro-Canada has an excellent portfolio of assets, with balanced strength and strong prospects for adding value. Recently, it has been starved of capital, and that has limited its ability to develop those assets. Now, access to equity markets will enable Petro-Canada to capitalize more fully on the many opportunities available to it.**





BILL HOPPER, CHAIRMAN  
AND CHIEF EXECUTIVE OFFICER

"I FIRMLY BELIEVE PRIVATIZATION IS THE KEY TO THE ONGOING  
SUCCESS OF PETRO-CANADA AS A CANADIAN LEADER IN  
THE PETROLEUM INDUSTRY"

ACT OF PARLIAMENT WILL LEAD

TO INITIAL PUBLIC OFFERING



A strategic review of the downstream business was completed early in 1991. It confirmed the key strategies and customer focus of the Products division, and suggested specific actions to improve profitability. These recommendations will be pursued during 1991.

Improving Petro-Canada's financial strength remains our principal objective. In 1990, the Company saw the benefit of the staff and cost reductions implemented in late 1989. Overall, costs were \$167 million lower than they would have been in the absence of these efficiency programs. However, total debt rose, in the absence of access to equity capital, to cover investment needs. Debt to debt plus equity increased slightly during the year to 45.6 per cent. The equity infusion from an initial public offering will be applied to reduce debt, so improvement in this measure can be expected. We recognize appropriate steps must be taken to enable Petro-Canada to establish and maintain a sound credit rating.

Rebalancing the asset portfolio continued to be a high priority. Sales of underperforming assets yielded \$256 million in 1990, while \$95 million was invested in purchases of upstream property offering strong potential for added value. Petro-Canada also completed the acquisition of the propane business of Inter-City Gas Corporation. Additional investments were made to build, through a joint venture, a plant to produce MTBE, an environmentally preferred gasoline octane enhancer. The propane and MTBE investments secure a strong position for the Company in two areas of opportu-

nity arising from today's environmental concerns.

Two members of our Executive Council left Petro-Canada during 1990. I would like to thank Ed Lakusta and Barry Stewart for their contributions during their years with us. Since the Petro-Canada Public Participation Act provides for the appointment of a new Board of Directors, I would like to take this opportunity to express my sincere appreciation to all the directors who served in 1990 for their valued contributions.

I also want to thank the employees of Petro-Canada for the significant strides they have made in revitalizing the Company and setting it firmly on a course for success. The changes in Petro-Canada's culture and working style over the past few years are bearing fruit in a new entrepreneurial spirit throughout the organization. Some of the best ideas at Petro-Canada are today coming from front-line employees. This spirit gives me great confidence as the Company moves into a new era.

The support of Canadians has been a great source of strength in Petro-Canada's first 15 years. I am proud of the place we have earned as "Canada's oil company". The move into the private sector can only strengthen that position, by increasing our ability to develop energy resources for Canadians and to meet the needs of customers. Our Canadian identity is our competitive edge, and we intend to fully maintain our commitment to Canadians in the years ahead.



W.H. Hopper  
Chairman  
and Chief Executive Officer

March 25, 1991

**Petro-Canada: Capitalizing on its Assets**

**A leader in the Canadian petroleum industry, Petro-Canada has a portfolio of assets that is well balanced to provide both current returns and significant growth opportunities. It is strong in both**

**"upstream" exploration and production and "downstream" refining and marketing activities. Petro-Canada has a sound base of revenue-generating producing properties and marketing operations, and prospects**

**for near-term growth. This base is complemented by a range of medium- and longer-term development opportunities on the Canadian frontiers and overseas.**

THE FOLLOWING PAGES REVIEW PETRO-CANADA'S ASSETS AND OPERATIONS BY BUSINESS AREA. ALL DATA ARE AS OF DECEMBER 31, 1990.

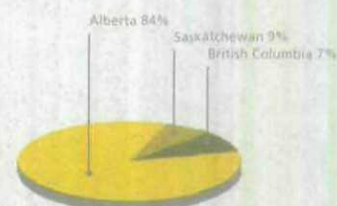
### Crude Oil and Natural Gas Liquids

- ranks third among Canada's crude oil and natural gas liquids (NGL) producers
- average 1990 production was 94 300 barrels per day
- provides about 5% of total Canadian oil production

### Conventional Oil and Field NGLs

- proved reserves amount to 275 million barrels or 12 years' production at current rates
- has added more than 100 million barrels of oil to Canada's reserves by its exploration efforts in Western Canada
- discovered the largest new Western Canada oil field of the 1980s – Valhalla, in Alberta
- 1990 production averaged 64 200 barrels per day
- contributed 49% of Resources division operating margins

SOURCES OF CRUDE OIL PRODUCTION



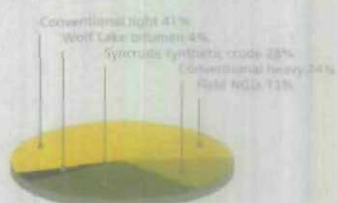
### Oil Sands

- proved reserves amount to 243 million barrels
- 1990 production amounted to 30 100 barrels per day
- larger leaseholdings than any other company in mineable oil sands
- third largest leaseholder of in situ oil sands
- 17% interest in Syncrude, the world's largest oil sands mining plant
- 50% interest in the Wolf Lake in situ oil sands plant
- 15% interest in the proposed OSLO oil sands mining project
- oil sands contributed 15% of Resources division operating margins



CONVENTIONAL OIL PRODUCTION IN WESTERN CANADA

CRUDE OIL PRODUCTION MIX



MINING OIL SANDS AT SYNCRUDE, NEAR FORT MCMURRAY, ALBERTA



# Petro-Canada: Canadian Operations





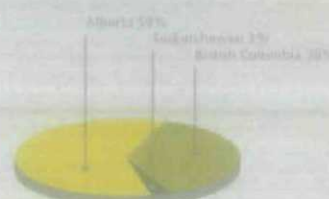
## Natural Gas and Sulphur

- ranks fifth in Canadian natural gas production
- provides about 5% of Canadian natural gas production
- 1990 production was 498 million cubic feet per day
- the leading gas producer in British Columbia
- 1990 sales were 571 million cubic feet per day, including brokered third-party gas
- about 20% of natural gas is sold directly to end users, 62% to shippers and 18% to Petro-Canada facilities
- proved reserves amount to 3 trillion cubic feet, or 17 years' production at current rates
- fourth largest sulphur producer in Canada
- sulphur production of 1 060 tons per day is mostly exported
- sulphur is produced as a by-product of natural gas processing, refining and bitumen upgrading
- natural gas and sulphur contributed 24% of Resources division operating margins

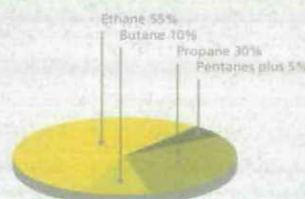
WILDCAT HILLS NATURAL GAS PROCESSING PLANT IN ALBERTA



SOURCES OF GAS PRODUCTION



STRADDLE PLANT PRODUCTION MIX



LOADING RAILCARS WITH LIQUID SULPHUR AT WILDCAT HILLS



## Straddle Plant Natural Gas Liquids

- second largest producer of straddle plant NGLs in Canada
- 1990 straddle plant output was 42 400 barrels per day
- operates and owns 92% of a large straddle plant at Empress, Alberta, extracting liquids from the gas stream on the main trunk line to Eastern Canada
- all Empress ethane production is sold for ethylene manufacture on a cost-of-service basis
- owns 50% of a straddle plant at Taylor, British Columbia
- 100% ownership in the Petroleum Transmission Company pipeline, which transports propane and butane from Empress, Alberta, to Fort Whyte, Manitoba, supplying points in between
- owns 10% of the Cochin pipeline, which carries natural gas liquids from Alberta to the U.S. Midwest and Windsor, Ontario
- contributed 12% of Resources division operating margins



NATURAL GAS LIQUIDS ARE EXTRACTED AT THE EMPRESS STRADDLE PLANT

## Frontier Canada

- leading player in Canada's East Coast offshore
- largest land position of any company in the Canadian offshore and Arctic frontiers
- one of the largest holders of potential reserves with 720 million barrels of oil and 7.3 trillion cubic feet of gas in the frontier regions
- interests in every major East Coast discovery, including oil finds at Hibernia (25%) and Terra Nova (44%)
- participating in the development of Hibernia
- operator of Terra Nova, which is moving towards development
- participant in several other offshore and Arctic oil and gas fields with potential for future development



OFFSHORE EXPLORATION HAS IDENTIFIED OIL FIELDS THAT CAN NOW MOVE TO PRODUCTION

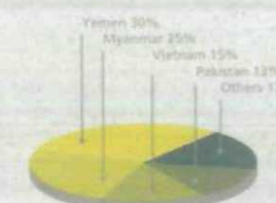


PETRO-CANADA DRILLING RIG ON LOCATION IN PAKISTAN

## International

- international exploration undertaken to balance and diversify exploration portfolio
- seeking large low-cost oil reserves to offset increasing costs of domestic production
- promising international acreage portfolio now in the early stages of exploration
- exploration programs in Yemen, Myanmar, Vietnam, Pakistan, Papua New Guinea, Malaysia, Colombia and Ecuador.
- only Petro-Canada has significant international activity among the major integrated Canadian companies

INTERNATIONAL LANDHOLDINGS

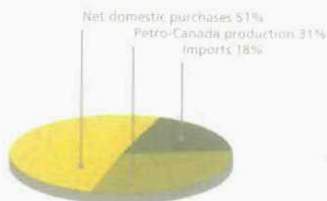






EDMONTON REFINERY

SOURCES OF CRUDE OIL FOR REFINERIES



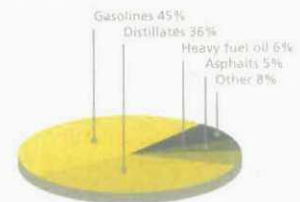
### Refining

- four refinery complexes, at Montreal, Edmonton, Port Moody, B.C., and Lake Ontario (Oakville and Mississauga, Ont.); a small refinery at Taylor, B.C., will close in 1991
- has more than 18% of Canadian refining capacity
- manufactures full range of petroleum products, from gasolines to petrochemical feedstock
- 1990 production exceeded 43.6 million litres per day
- includes production of 640 000 litres of lubricants and 953 cubic metres of petrochemical feedstock daily
- makes Canada's highest quality lubricants, including specialized industrial products
- refining network has an above-average ability to process synthetic and heavy crudes

### Marketing

- every day, on average, about 600 000 customers buy gasoline and other petroleum products from Petro-Canada
- strong second in gasoline market share in each region and nationally
- third largest retail network in Canada, with 3 205 outlets nationwide
- sold 42.7 million litres of refined products per day in 1990
- car washes, Certigard car care franchises and convenience stores make fuller use of assets and add to marketing revenues and customer service
- 60% of total sales volume is to wholesale, commercial, industrial and heating customers

REFINED PRODUCT SALES MIX



PETRO-CANADA CAR WASH



MORE THAN 600 000 CUSTOMERS A DAY BUY PRODUCTS FROM PETRO-CANADA

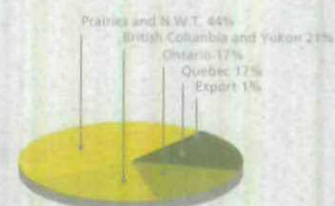
### Supply and Distribution

- buys crude oil from Western Canada and other countries
- has interests in nine crude oil and refined products pipelines
- has 35% interest in the Alberta Products pipeline, which carries refined products from Edmonton to Calgary
- has 33% interest in the Trans-Northern pipeline, which distributes refined products to major markets in Ontario and Quebec
  - has 24% interest in the Portland-Montreal pipeline, which transports crude oil from Portland, Maine, to Montreal
  - 23 distribution terminals across Canada, seven of which are fully automated
  - 336 wholesale outlets across the country



ICG PROPANE GIVES PETRO-CANADA  
A STRONG POSITION IN ALTERNATE FUELS

PROPANE SALES DISTRIBUTION



### ICG Propane Inc.

- Petro-Canada's wholly owned subsidiary, headquartered in Winnipeg
- second largest retail marketer of propane in Canada, with about one third of the market
- sold 1 245 million litres of propane in 1990
- markets through 137 company-operated branches and 1 117 independent retailers
- auto propane makes up about 35% of total sales; other sales go to industrial, commercial, residential, farm and remote location markets

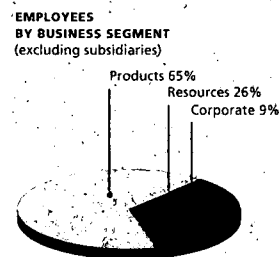
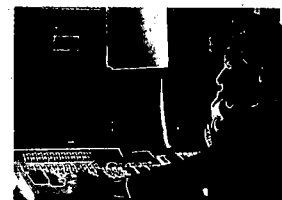
### MTBE Plant

- 50% interest in world-scale facility under construction to manufacture methyl tertiary butyl ether (MTBE), an environmentally preferred gasoline additive
- start-up expected in the first quarter of 1992
- plant production is targeted at 2 000 cubic metres of MTBE per day
- facility is located near Edmonton, close to sources of the two major raw materials, butane and methanol
- MTBE has growing export potential, particularly in those areas in the United States which have strict environmental controls
- to operate the plant, the joint venture has established Alberta Envirofuels Inc.



## Employees

- 6 353 employees at year-end 1990 in the Petro-Canada "core"
- 3 453 employees in subsidiaries
- 91% of "core" employees are in the operating divisions
- young, highly skilled workforce; average age 37.8



## Research and Development

- research centre at Sheridan Park in Mississauga, Ontario, develops improved products
- upstream research, emphasizing the enhancement of exploration and production technology, is conducted in Calgary
- new technology for oil sands development is tested in field pilot operations
- joint research programs and technology development are carried out with third parties
- in 1990, Petro-Canada spent \$25 million on research and development activities



SHERIDAN PARK RESEARCH CENTRE  
SPEARHEADS NEW PRODUCT DEVELOPMENT



PETRO-CANADA CENTRE, THE COMPANY'S  
HEAD OFFICE IN CALGARY

## Investments

- 37% interest in Westcoast Energy Inc.
  - key player in natural gas transmission, oil and gas industries
  - market value of investment at year end was \$453 million
  - Petro-Canada's share of 1990 earnings \$26 million, dividends \$16 million
- 50% ownership in Petro-Canada Centre
  - major office complex in Calgary
- 53% ownership of Panarctic Oils Limited
  - responsible for large oil and gas discoveries in the Arctic Islands, which are available for future development

## Resources Division

### CASH FLOW AND EXPENDITURES ON PROPERTY, PLANT AND EQUIPMENT AND EXPLORATION



(millions of dollars)

□ Cash flow  
■ Expenditures on PP&E and exploration

The Resources division continues to reinvest a high proportion of cash flow for future growth.

The Resources division's financial performance improved significantly, with earnings of \$203 million, up \$114 million over 1989. Cash flow of \$480 million jumped 28 per cent over 1989. Efficiency gains, cost reductions and rapid response to opportunities, together with higher oil prices in the second half of 1990, contributed to these significantly improved financial results.

Total production of crude oil and field natural gas liquids decreased 6 per cent in 1990 to 94 300 barrels per day. Gains from record production at Syn-crude were more than offset by natural decline and sales of conventional producing properties. Natural gas production declined 13 per cent to 498 million cubic feet per day, as a result of price-related export restrictions on British Columbia production, and final delivery in 1989 of take or pay volumes under a major pipeline contract. Lower deliverability and reduced shipper volumes were also factors.

The Resources division followed through in 1990 with implementation of the value-oriented strategies identified during the previous year. Activities in Western Canada are being refocused by asset restructuring and the innovative work of a revitalized organization. Future value creation and the replacement of conventional hydrocarbons are being pursued through a strategic emphasis on natural gas in Western Canada and through frontier and oil

sands projects and high-potential international opportunities.

### Asset restructuring continues

The Resources division continued the two-pronged asset restructuring strategy initiated in 1989. A divestment program sought to capture value through the sale of non-strategic and underproducing assets. At the same time, selective acquisitions increased the Company's ownership position in key assets and gained profitable reserves and production.

Petro-Canada concluded three major purchases of developed gas reserves in Alberta, amounting to 100 billion cubic feet, for a total of \$46 million. These provided increased working interests in the Petro-Canada operated Wildcat Hills field, the Gilby field and a smaller Kaybob property which is now 100 per cent owned. In July, the Company acquired the Golden Lake conventional heavy oil field for \$33 million. Golden Lake, east of Lloydminster, Saskatchewan, provides 16 million barrels of primary proved reserves and 2 300 barrels per day of production. An additional 27 million barrels of proved reserves were booked based on a viable waterflood program.

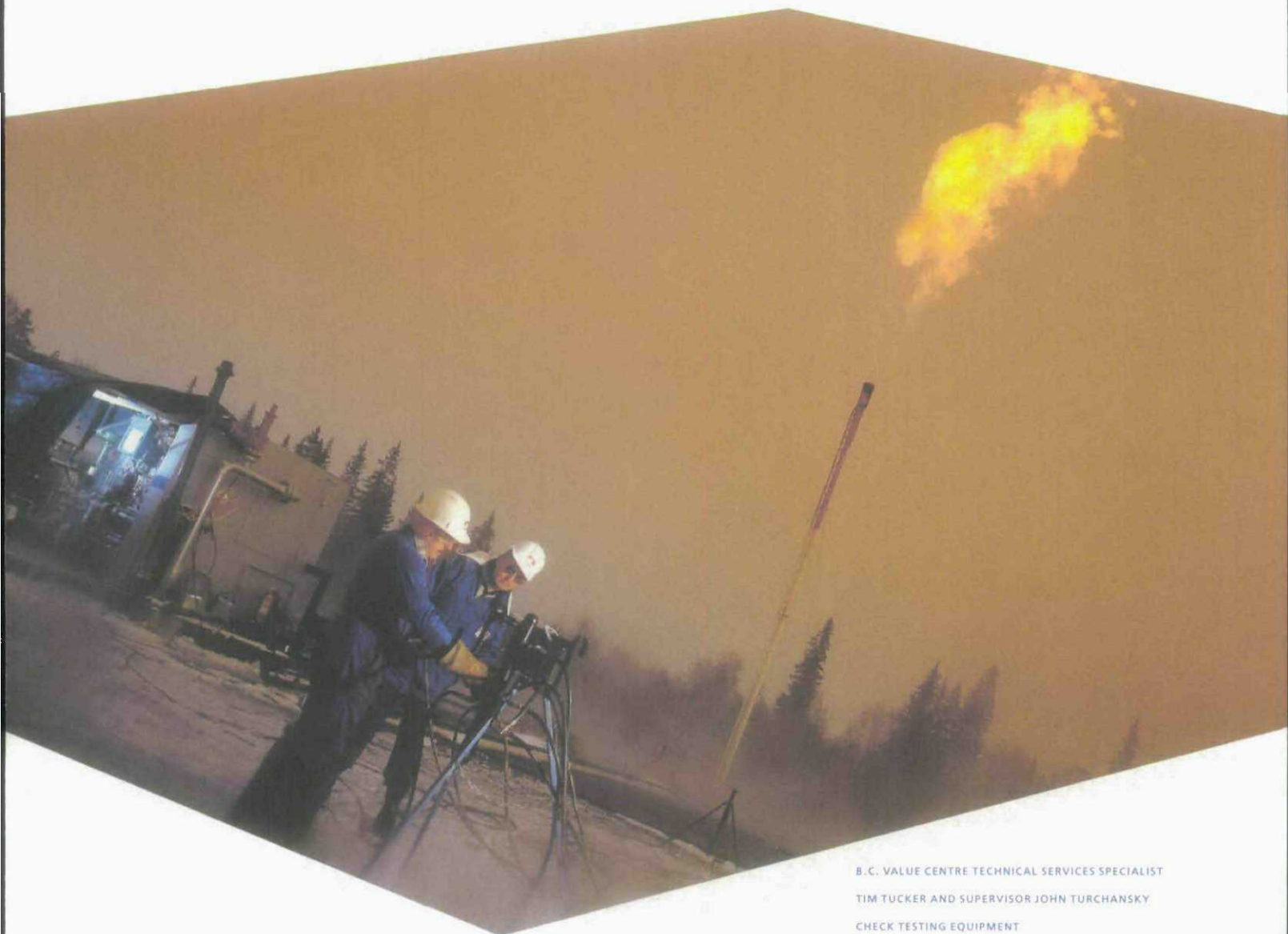
### FINANCIAL

(stated in millions of dollars)

	1990	1989
Earnings	203	89
Cash flow from operations	480	374
Proceeds from sale of assets	211	97
Expenditures on property, plant and equipment and exploration	393	334

### OPERATING

	1990	1989
Crude oil and field natural gas liquids production, net before royalties (thousands of barrels per day)		
Conventional crude oil and field natural gas liquids	64	72
Synthetic and bitumen	30	28
Total	94	100
Natural gas production, net before royalties (millions of cubic feet per day)	498	573
Proved reserves of crude oil and natural gas liquids, net before royalties (millions of barrels)	519	528
Proved reserves of natural gas, net before royalties (billions of cubic feet)	3 025	3 351



B.C. VALUE CENTRE TECHNICAL SERVICES SPECIALIST  
TIM TUCKER AND SUPERVISOR JOHN TURCHANSKY  
CHECK TESTING EQUIPMENT

**GAS FLARE SIGNALS SUCCESSFUL PRODUCTION TEST AT  
STEP-OUT WELL TO KLUA DISCOVERY IN NORTHEASTERN  
BRITISH COLUMBIA**

**MAJOR DISCOVERY MOVES QUICKLY**

**TOWARD PRODUCTION**





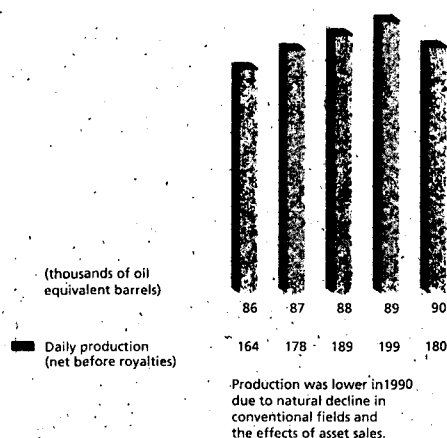
TECHNICAL SPECIALIST JACK WEARMOUTH AND PRODUCTION OPERATORS CHERYL SLADE AND DAISY HARPE RUN NEW WATER FILTRATION PLANT AT VALHALLA OIL FIELD IN ALBERTA

**TO MAINTAIN RESERVOIR PRODUCTIVITY AND LIMIT ENVIRONMENTAL IMPACT, A CERAMIC FILTER SYSTEM DRAWN FROM THE BEVERAGE INDUSTRY PURIFIES PRODUCED WATER FOR REINJECTION AT VALHALLA**

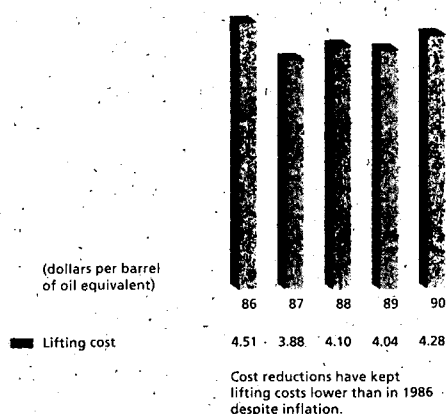
**EMPLOYEES' IDEAS AND INNOVATIVE**

**TECHNOLOGIES IMPROVE RETURNS**

DAILY PRODUCTION



AVERAGE LIFTING COST



Proceeds from Resources division asset sales during 1990 totalled \$211 million. Divestments included interests in 48 Western Canada producing fields and the Company's interests in the Casablanca oil field in Spain and the Sedco 710 drilling rig.

Each of the Company's 450 producing fields in Western Canada has been categorized according to its potential to add value. Management expects to reduce the total to around 200 by the end of 1993. The Company is also considering the sale of a portion of its interest in Syncrude. Over 1989 and 1990, \$308 million has been realized from asset sales.

#### New organization yields results

The new organization based on value centres, introduced in 1989, has invigorated the Resources division. Each value centre has given considerable authority to asset teams working to add value to particular groups of properties. Vesting responsibility in teams of front-line specialists provides a framework for fast and effective decision-making and implementation.

The rapid follow-up to the Klua gas discovery was led by the Fort Nelson asset team, one of five in the British Columbia Value Centre. An asset team in the Conventional Heavy Oil Value Centre has managed the Golden Lake field aggressively since its acquisition in September, increasing production by 10 per cent. And a Northern Alberta Value Centre team identified a drilling location at Shekille, purchased land, drilled a discovery well and brought it on production, all in seven months.

While value centres concentrate on existing assets, stratigraphic exploration groups look for new play concepts. Experts are grouped according to key

geological strata in the Western Sedimentary Basin. They are set up for breakthrough thinking to identify opportunities for significant reserve and production additions. The three stratigraphic exploration groups completed a fundamental reassessment of basin formation and sourcing attributes and proceeded to regional analyses of the basin. Advanced computer technology enabled them to analyse much broader bases of data than was previously possible, opening up many new possibilities.

#### Building the natural gas business

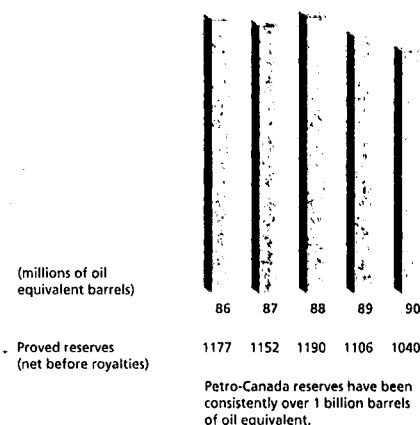
The division's emphasis on natural gas in its Western Canada exploration program resulted in success in 1990. In February, testing confirmed a major gas discovery at Klua, 40 kilometres southeast of Fort Nelson, British Columbia.

Petro-Canada quickly acquired a 100 per cent working interest in 300 square kilometres in the area. It followed with extensive seismic, two more successful wells and construction of an all-weather road to allow rapid development. The three wells showed net gas pays up to 80 metres thick. Test results enabled Petro-Canada to add 69 billion cubic feet of gas from these three pools to its proved reserves.

The asset team has identified up to 25 drillable anomalies on Petro-Canada lands at Klua. Further reserve additions are expected in 1991 as a result of major seismic programs and another four exploration wells. The Company plans to market Klua gas in late 1991, after Westcoast Energy Inc. completes a pipeline to its Fort Nelson gas processing plant.

Exploration and development drilling, well tie-ins and additional compression facilities in British Columbia and Alberta

## PROVED RESERVES



added 33 billion cubic feet of proved reserves. Altogether, through exploration and development, 102 billion cubic feet of natural gas were added in 1990 to Petro-Canada's proved reserves.

Gas marketing initiatives continued to emphasize direct sales to industrial consumers and local distribution companies. Five new direct sales contracts were added during the year and a letter of intent was signed to supply gas to consumers on Vancouver Island once pipeline construction is finished.

Petro-Canada also continued efforts to expand its access to pipeline transportation in order to sell gas into California and the U.S. Northeast. In 1990, the Company signed an agreement with Kern River Gas Transmission Company to transport 60 million cubic feet per day to southern California. When the Kern River pipeline goes into service in the first quarter of 1992, Petro-Canada will transport gas through Kern River and existing arrangements on the Northwest Pipeline system, providing an important new export opportunity for the Company's British Columbia production. Letters of intent have been signed with California customers for 20 million cubic feet per day.

To improve returns from the field natural gas liquids business, Petro-Canada took an overall 11 per cent equity interest in a de-ethanization and fractionation facility at Fort Saskatchewan, Alberta. Petro-Canada's investment over 1990 to 1993 will be \$18 million. The facility, expected to begin operations in 1993, will process most of Petro-Canada's field liquids at costs well below those currently incurred at third-party facilities.

### Adding value from Western Canada conventional oil assets

While exploration in Western Canada is primarily targeted to natural gas, the Company continues to add oil reserves from a mix of exploration, development and enhanced recovery.

During the year, 33 million barrels of oil and natural gas liquids were booked as proved reserves. In addition to the reserves from the Golden Lake waterflood booking, 3 million barrels were added as a result of a miscible flood program. A further 3 million barrels were added from exploration and development activities.

The Resources division has significantly reduced costs and optimized production in recent years. Continuous improvements are being sought by mobilizing the ideas of all staff to improve business performance. Individually, the increments are small, but, added together, such ideas yield considerable gains as responsibility for improvement becomes entrenched in the roles of front-line employees. The division began to adopt in 1990 a total quality management approach for improving business performance.

### Frontier moving to development

Fifteen years of exploration investments have built for Petro-Canada a strong portfolio of offshore discoveries, with potential reserves totalling 720 million barrels of oil and 7.3 trillion cubic feet of gas. However, until 1990, there had been no development that could lead to a return on investment. In September, following years of complex negotiations and 11 years after Petro-Canada shared in the initial Hibernia oil discovery, the Company and its co-owners signed binding agreements with the governments of Canada and Newfoundland and Labrador





KEY NEGOTIATORS: SENIOR COUNSEL GARTH PARKER,  
SENIOR SUPERVISOR STEVE MA OF FRONTIER BUSINESS  
DEVELOPMENT AND CHIEF ECONOMIST JOHN RIMELL

**HARD-WON AGREEMENTS AMONG CONSORTIUM MEMBERS  
AND GOVERNMENTS ENABLED CONSTRUCTION TO BEGIN FOR  
THE HIBERNIA OFFSHORE OIL DEVELOPMENT**

**TEAMWORK IN TOUGH NEGOTIATIONS**

**BROUGHT HIBERNIA BREAKTHROUGH**



to launch construction of the Hibernia project. By year end, crews were developing the site in Newfoundland where the concrete base for the production system will be built and the processing facilities assembled.

The participants have set up the Hibernia Management and Development Corporation to run the project. As a 25 per cent participant, Petro-Canada's share of pre-production expenditures will be approximately \$1.1 billion after government grants. Production is scheduled to begin in 1996. When booked, Hibernia will add at least 131 million barrels to Petro-Canada's proved oil reserves. The Company's share of production will reach a maximum of 27 500 barrels per day.

Terra Nova, also off Newfoundland, will likely be the next major offshore oil field to proceed to development. Petro-Canada discovered, operates and has a 44 per cent interest in the project. The Company's share of potential reserves is at least 132 million barrels. During 1990, Petro-Canada and its co-owners completed engineering and reservoir studies leading toward selection of a floating production system. Terra Nova oil could be on stream in the late 1990s, with maximum production for the Company reaching 44 000 barrels per day.

Together, Hibernia and Terra Nova will more than double Petro-Canada's daily light crude production. Development of these two fields will likely spur delineation and development of other discoveries, such as Ben Nevis, Hebron, Whiterose and West Ben Nevis. Petro-Canada has working interests in all these fields.

### **Steady participation in the oil sands**

Petro-Canada's 17 per cent interest in the Syncrude plant provided the Company with 26 700 barrels of synthetic crude per day in 1990. Syncrude provides close to one third of Petro-Canada's crude oil production.

A consortium in which Petro-Canada has a 15 per cent interest continued preliminary engineering for the OSLO oil sands mining project near Fort McMurray. The participants expect to be ready in late 1991 to make a decision on whether to proceed with development.

Petro-Canada participated with other companies in further work on a new technology involving dredge mining, low-temperature bitumen extraction and ore transportation. A small demonstration plant is being considered to test commercial applications of the technology.

In situ activity during 1990 included record bitumen production, averaging 3 400 barrels per day, from the 50 per cent owned Wolf Lake facility. In May, PCEI Hangingstone was brought on stream as a 13-well, cyclic steam stimulation pilot. Petro-Canada is operator of, and has a 25 per cent interest in, this in situ bitumen joint venture.

### **Active international player**

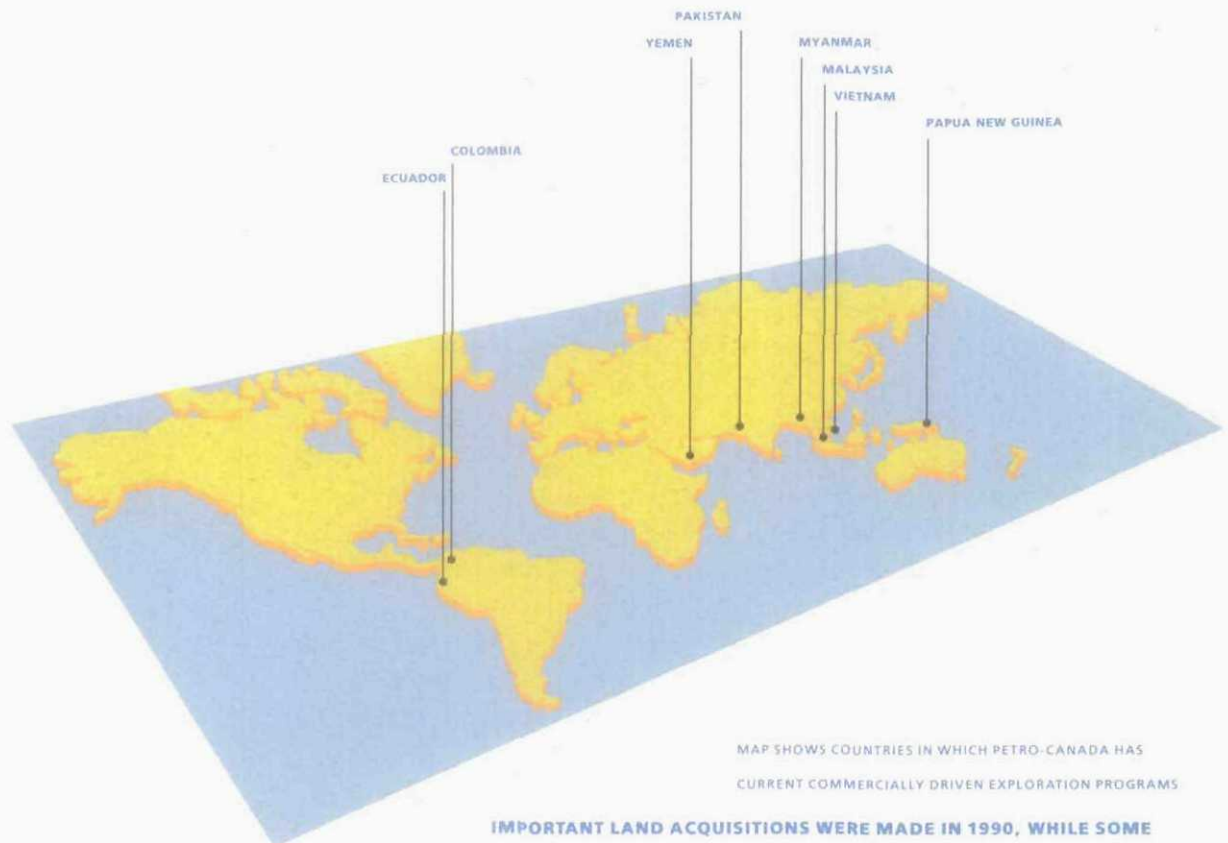
The Company continued to expand its program of international exploration in 1990. Petro-Canada is focusing on exploration opportunities in under-explored areas outside Canada where there are prospects of finding large oil reserves with low production costs.

Between November 1989 and May 1990, Petro-Canada acquired exploration rights in Myanmar, Vietnam and Yemen. In Myanmar, Petro-Canada operates one onshore block with a 70 per cent interest

and participates in another with a 30 per cent interest. More than 1 000 kilometres of seismic were shot by year end and drilling is planned for both blocks in 1991. In Vietnam, Petro-Canada has operatorship and a 50 per cent interest in three offshore blocks south of the Mekong Delta. A 4 500 kilometre seismic program was finished in 1990 and an exploration well is planned in 1991. Seismic data was being gathered at year

end in Yemen, where Petro-Canada is operator and 35 per cent participant in onshore acreage near the Oman border.

In the middle Magdalena Valley of Colombia, Petro-Canada participated with a 50 per cent interest in two successful delineation wells in the Tisquirama block to follow up a 1989 oil discovery. Further development is planned for 1991.



MAP SHOWS COUNTRIES IN WHICH PETRO-CANADA HAS  
CURRENT COMMERCIALY DRIVEN EXPLORATION PROGRAMS

**IMPORTANT LAND ACQUISITIONS WERE MADE IN 1990, WHILE SOME  
PROJECTS MOVED INTO THE DRILLING PHASE**

**INTERNATIONAL THRUST SEEKS LARGE,**

**LOW-COST OIL RESERVES**

## Products Division

The Products division benefited in 1990 from improved margins and the efficiency measures initiated in 1989. Earnings in 1990 were \$126 million, up 21 per cent from a year earlier. Cash flow increased 9 per cent to \$258 million, reflecting a jump in operating earnings from 2.1 to 2.4 cents per litre. This increase resulted primarily from improved margins. Expense savings in 1990 were offset by higher refinery operating expenses, largely due to maintenance shutdowns at most of the Company's refineries and a refinery fire.

Capital expenditures on property, plant and equipment were \$162 million, plus \$59 million invested in the MTBE plant. Total expenditures were up 6 per cent from 1989. Proceeds from the sale of refining and marketing assets amounted to \$36 million.

Daily sales of petroleum products in 1990 were 42 700 cubic metres per day, a decrease of 3.8 per cent from the previous year. Lower demand for petroleum products, resulting from the recession in the Canadian economy, and some loss of sales, due to the closing of uneconomic facilities, caused much of the decline.

Petro-Canada's refineries processed 43 600 cubic metres per day of crude oil in 1990. With refinery capacity totalling 54 200 cubic metres per day, average

refinery utilization was 80 per cent. This figure was down from 1989 due to lower sales and refinery shutdowns.

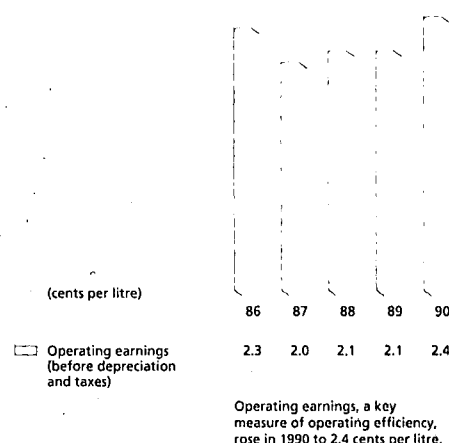
Although pleased with the substantial progress made in 1990, management is looking for an even greater contribution to Petro-Canada's financial success from the Products division in future years. The division's strategic review, finished in January 1991, identified opportunities for improvement and specific action plans. The division will intensify efforts to reduce costs and infuse a customer focus into every aspect of operations. In addition, each business segment will be segregated to ensure all parts of the organization generate maximum value.

### Refining more efficiently

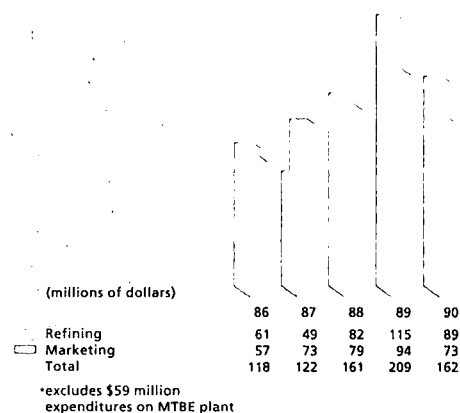
Petro-Canada took further measures in 1990 to increase the efficiency of its refining network.

Capital expenditures continued to focus on improving reliability, environmental performance and safety. In 1990, construction was completed on a \$20 million in-line gasoline blending facility at the Montreal refinery. The Company also began work on a \$13 million instrumentation and control room renovation project. At the Oakville plant of the Lake Ontario refinery, a new \$10 million water treatment facility was commissioned and an \$18 million automation program completed.

## OPERATING EARNINGS



## EXPENDITURES ON PROPERTY, PLANT AND EQUIPMENT



Petro-Canada continued steady investment in the downstream, following peak spending on lead phase-out in 1989.

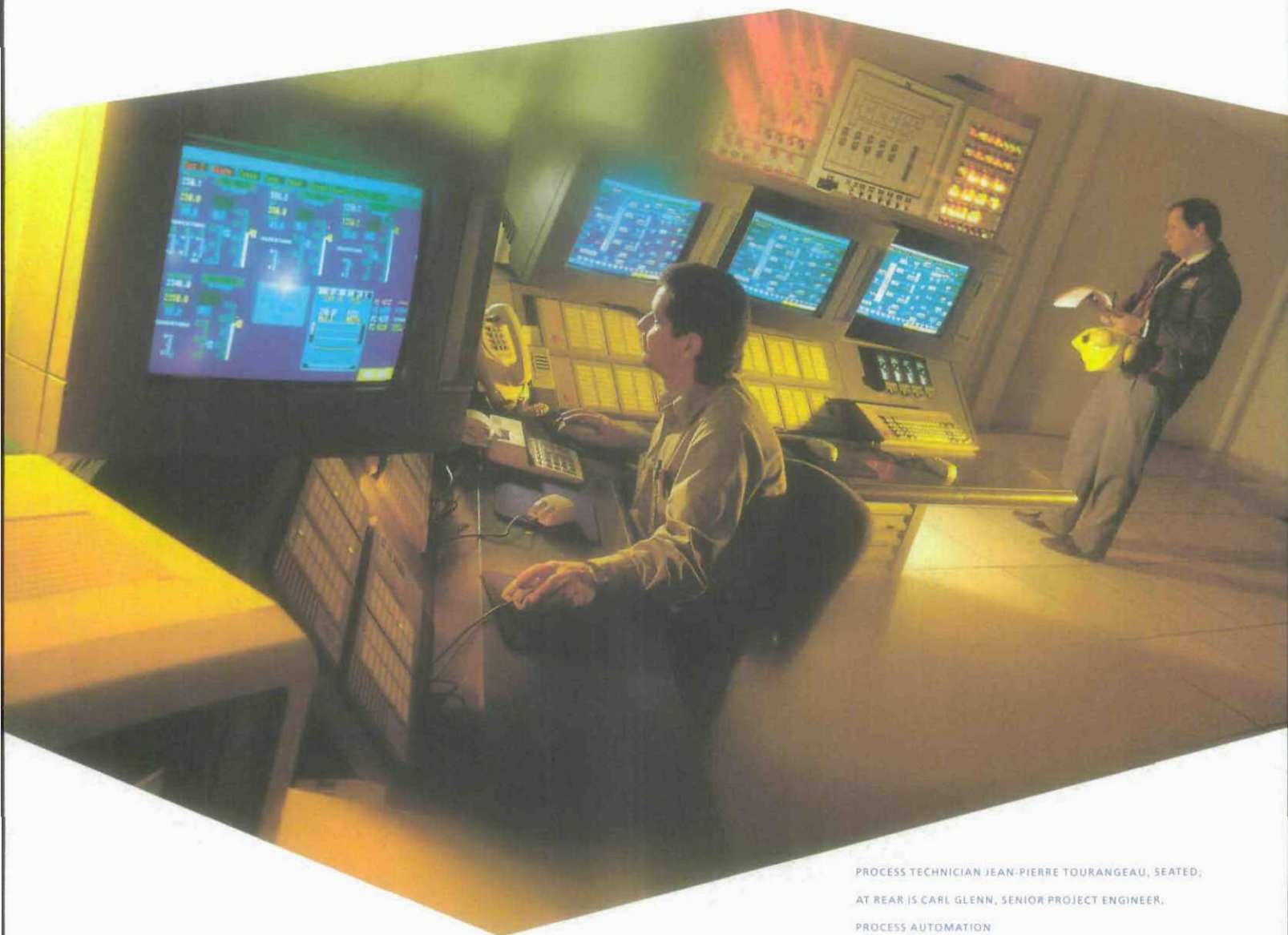
## FINANCIAL

(stated in millions of dollars)

	1990	1989
Earnings	126	104
Cash flow from operations	258	237
Proceeds from sale of assets	36	21
Expenditures on property, plant and equipment	221	209

## OPERATING

	1990	1989
Petroleum product sales (thousands of cubic metres per day)	42.7	44.4
Retail outlets at year end	3 205	3 295
Refinery crude capacity at year end (thousands of cubic metres per day)	54.2	54.2
Crude oil processed by Petro-Canada (thousands of cubic metres per day)	43.6	46.5
Average refinery utilization (per cent)	80	86



PROCESS TECHNICIAN JEAN-PIERRE TOURANGEAU, SEATED;  
AT REAR IS CARL GLENN, SENIOR PROJECT ENGINEER,  
PROCESS AUTOMATION

INVESTMENTS SUCH AS THIS AUTOMATED CONTROL ROOM  
AT MONTREAL WILL IMPROVE THE RELIABILITY AND SAFETY  
OF REFINERIES AND PERMIT EFFICIENCY GAINS

SELECTIVELY INVESTING IN REFINERY

IMPROVEMENTS





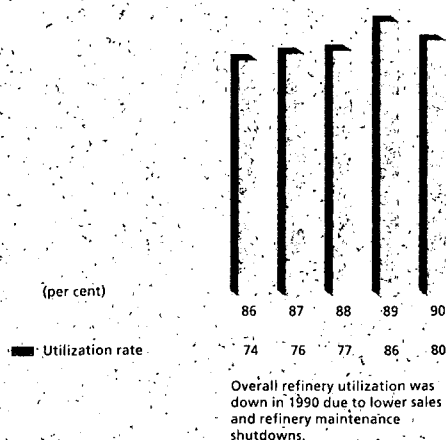
NEPEAN, ONT., ASSOCIATE JIM COOLEY DISCUSSES  
LOCAL UNIT MANAGEMENT IDEAS WITH MARKETING  
REPRESENTATIVE LUKE RYAN

RETAILERS GAIN SKILLS TO IMPROVE BUSINESS AT THE LOCAL LEVEL  
WITH BUSINESS COUNSELLING FROM COMPANY PERSONNEL

INITIATIVE AIMS TO BOOST PROFITABLE

GASOLINE SALES

AVERAGE REFINERY UTILIZATION



Consistent with its strategy of reducing refining costs, Petro-Canada announced in January 1991 plans to close the Taylor, British Columbia, refinery and sell certain of its assets for net proceeds of \$13 million. Petro-Canada customers in the region will be served from the Edmonton and Port Moody refineries.

The Company plans to re-start, in mid 1991, the catalytic cracker at the Port Moody, British Columbia, refinery. This change will enable Petro-Canada to take full advantage of market demand. The Company will continue to optimize the operations of the Edmonton and Port Moody refineries by retaining the ability to send both crude oil and partially processed energy streams to Port Moody from Edmonton via the Trans Mountain pipeline.

An explosion and fire at the Edmonton refinery on May 24 led to the tragic deaths of two valued employees and substantial damage to the crude oil processing area. Production was restricted until repairs were completed in August. Product supply was maintained to all customers through other Petro-Canada refineries and arrangements with third parties.

#### **Product development for the future**

In 1990, Petro-Canada invested a total of \$16 million on downstream research and development to anticipate the impact of future environmental legislation and develop improved products for customers.

The Sheridan Park research and development centre in Mississauga, Ontario, completed an expansion of its engine and vehicle test facilities. The performance of new fuels and lubricants can now be assessed under the most rigorous operating conditions.

Researchers continued to focus on the development of high-value specialty lubricants. Taking advantage of the Company's unique "HT" manufacturing process, these specialty products offer superior performance and benefits which cannot be matched by the competition. For example, "Purity" defoamer oil, an ultra-pure product developed to assist the pulp and paper industry in meeting stringent environmental targets, captured a dominant market position in Canada during 1990. Also in 1990, a new line of "Vulcan" greases was launched for use in the mining industry and other specialized markets.

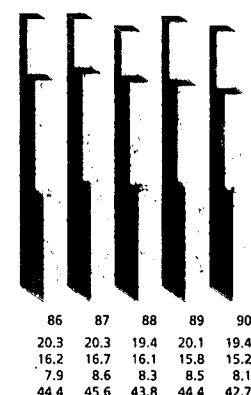
The Company completed extensive trials of a premium-grade asphalt on major highways across Canada. In 1991, "Premium" asphalt will be launched commercially. The product will provide superior performance and extend pavement life under Canada's severe climatic conditions.

#### **Improved effectiveness of retail marketing**

To improve its focus on customers, Petro-Canada introduced a service-oriented operating system known as local unit management. Most retail outlets will adopt the system by 1992.

Local unit management aims to increase profitable gasoline sales by concentrating on customer satisfaction at the organization's front line. It provides retail associates with tools and skills to take a more entrepreneurial approach to business, while company representatives act as business counsellors. Individual, site-specific approaches emphasize attention to customer needs and local markets.

## PETROLEUM PRODUCT SALES



Petroleum product sales weakened in 1990 as a result of the recession and withdrawal from unprofitable markets.

The Company continues to improve the quality of its retail network. In 1990, \$47 million of capital spending was directed to upgrading retail facilities and replacing underground tanks. To further improve asset utilization, Petro-Canada continued to divest unprofitable sites. By year end, there had been a net reduction of 90 outlets in the retail network.

### Developing a more vibrant wholesale business

Entrepreneurship is crucial in the continuing implementation of the "wholesale marketer" program. Under this operating system, associates have greater responsibility for customer service aspects of their business, such as customer account management. Bulk plants are automated to enhance efficiency and competitiveness. By year end, the number of wholesale marketers had increased from 27 to 59. Rollout of the program is expected to be complete by the end of 1992.

Petro-Canada's working capital commitment is significantly reduced when a bulk plant is converted to a wholesale marketer. The marketer takes a greater financial stake in the business, including responsibility for accounts receivable. It is anticipated the program will reduce the Company's investment in working capital by as much as \$40 million.

The wholesale network was also strengthened further as low-volume, low-margin bulk plants were closed or sold. Certain facilities were closed because their contribution to performance could not justify investments needed to meet legislated environmental standards. Additional consolidation is planned for future years to strengthen the financial viability and competitiveness of the network.

### Cleaner and environmentally sound products

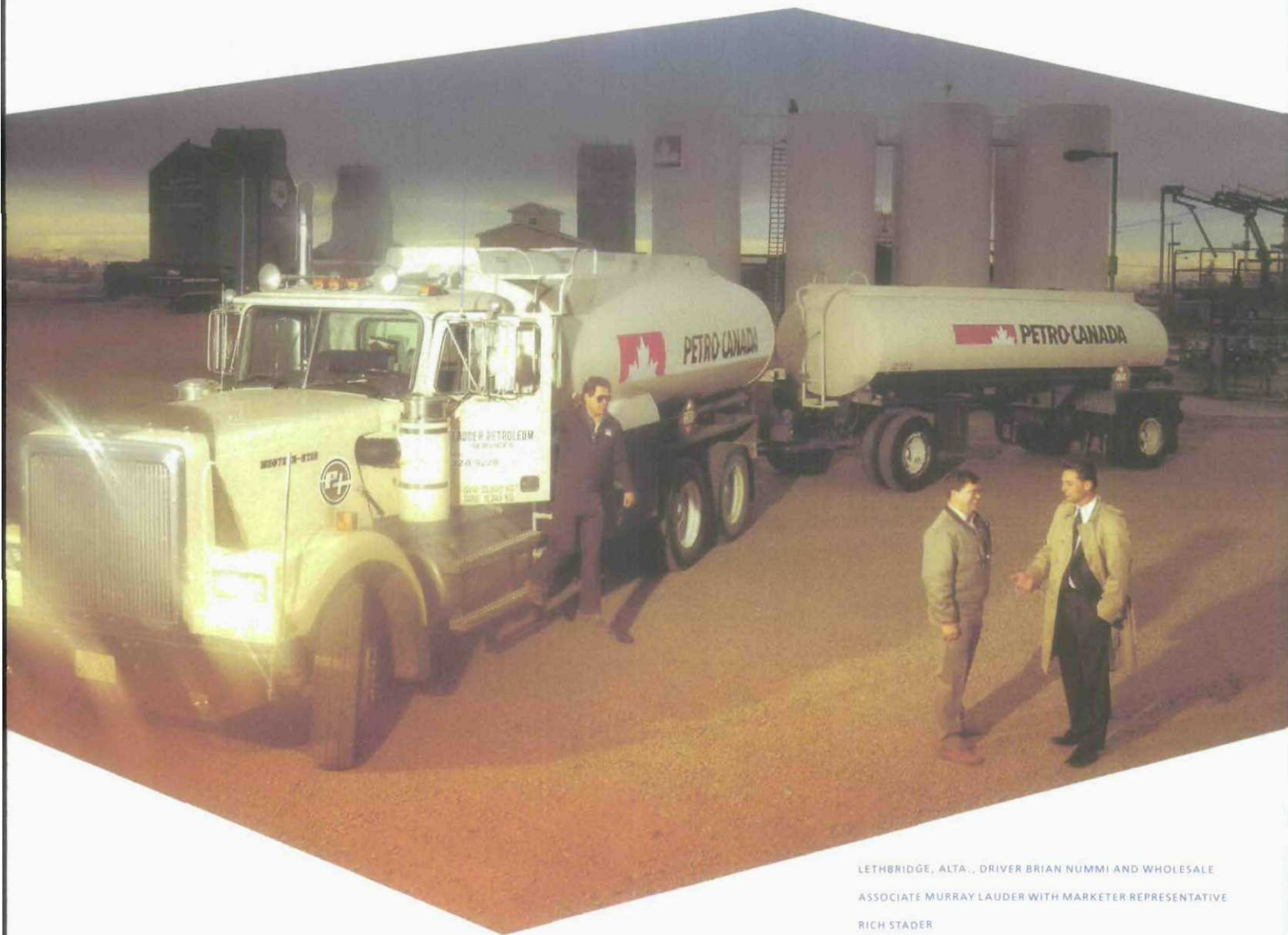
While new environmental regulations require significant investment in refineries and marketing facilities, Petro-Canada continued to find opportunity in the changes required by today's environmental concerns.

Petro-Canada is participating in a joint venture to build the first plant in Canada, and one of the largest in the world, to manufacture methyl tertiary butyl ether (MTBE). MTBE is a high-value oxygenated gasoline blending component used increasingly in reformulating gasolines to higher environmental standards. MTBE has cleaner burning qualities which reduce harmful emissions from automobile exhaust. MTBE can also replace the octane loss as lead is removed from the gasoline blend. Petro-Canada and Neste Oy, the Finnish state oil company, are currently 50 per cent co-owners of Alberta Envirofuels Inc., operator of the plant. Construction began in April 1990 at a site near Edmonton.

Total joint venture expenditures on the MTBE plant and facilities will be \$390 million. Start-up is expected in the first quarter of 1992, with plant production reaching 2 000 cubic metres per day. The increasing use of cleaner-burning fuels in North America, Europe and Asia is expected to provide strong and growing market demand for MTBE. In the United States, the Clean Air Act of 1990 requires higher oxygenate content in gasolines sold in certain cities.

The new isomerization unit at the Edmonton refinery began operating in May, increasing unleaded gasoline capacity and enabling the final phase-out of lead in gasolines. The unit was finished on schedule and under budget, at a total cost of \$59 million.



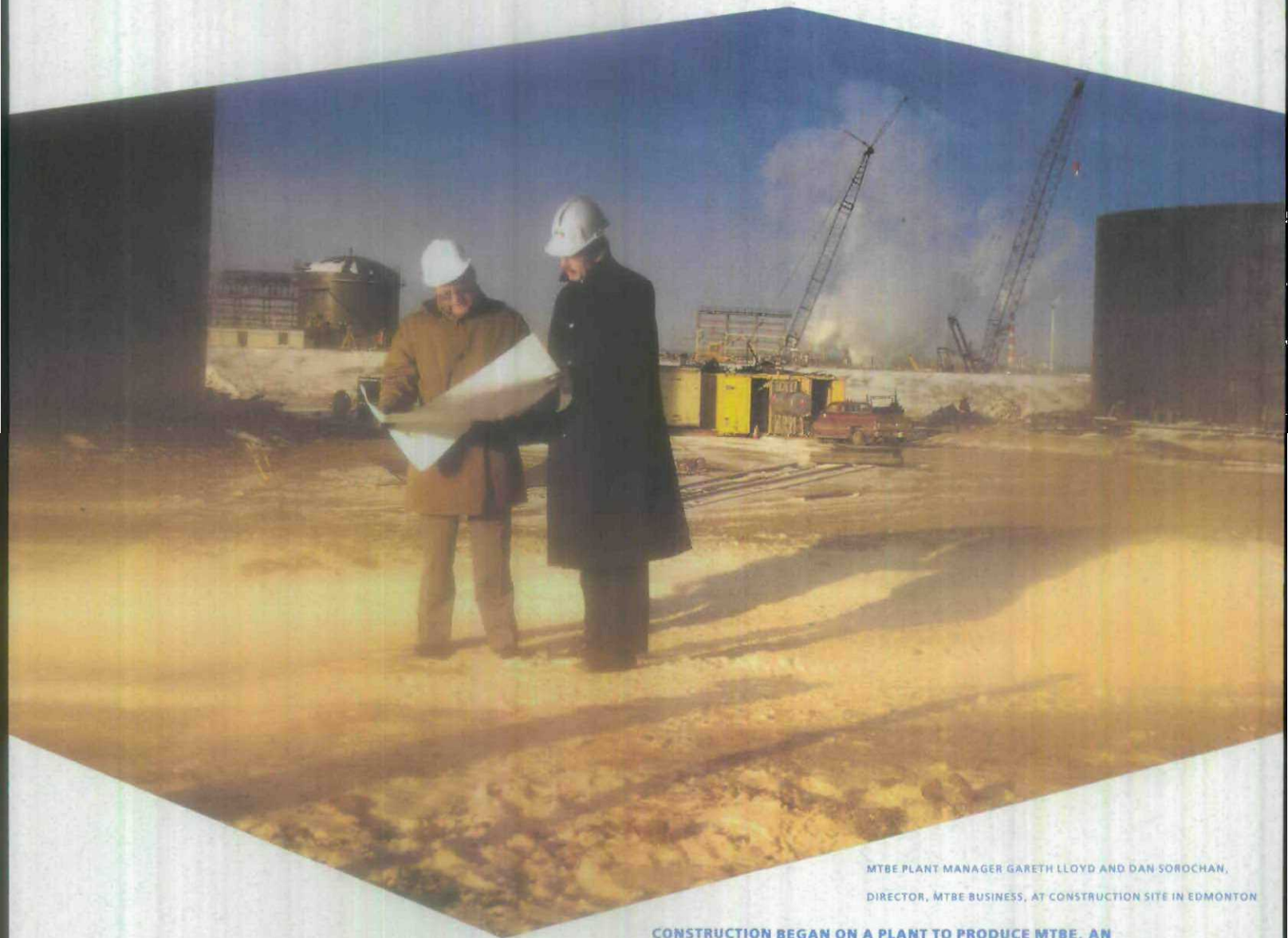


LETHBRIDGE, ALTA., DRIVER BRIAN NUMMI AND WHOLESALE  
ASSOCIATE MURRAY LAUDER WITH MARKETER REPRESENTATIVE  
RICH STADER

**WHOLESALE MARKETER PROGRAM**  
**ENCOURAGES ENTREPRENEURIAL SKILLS**

**WHOLESALE MARKETER PROGRAM**

**ENCOURAGES ENTREPRENEURIAL SKILLS**



MTBE PLANT MANAGER GARETH LLOYD AND DAN SOROCHAN,  
DIRECTOR, MTBE BUSINESS, AT CONSTRUCTION SITE IN EDMONTON

**CONSTRUCTION BEGAN ON A PLANT TO PRODUCE MTBE, AN  
ENVIRONMENTALLY PREFERRED OCTANE ENHANCER FOR BLENDING  
INTO GASOLINE**

**ENVIRONMENTAL PRIORITIES CREATE**

**BUSINESS OPPORTUNITIES**



## ICG Propane Inc.

In 1990, Petro-Canada completed the acquisition of the propane business of Inter-City Gas Corporation for \$235 million. The business is carried on through a wholly owned subsidiary, ICG Propane Inc.

Acquisition of the country's second largest propane marketer greatly expands Petro-Canada's participation in retail propane. The business has been consistently profitable. It has strengthened Petro-Canada's cash flow and enables the Company to market its propane production more efficiently, while gaining a position in the forefront of alternative fuels.

At year end, operations were conducted through 137 company-operated branches and 1,117 independent retailers. The network covers all of Canada's regions, with its highest share of market in Quebec, the Territories, British Columbia and the Prairies. An agreement signed in July enables ICG Propane to supply propane for sale through 220 Turbo service stations in Western Canada.

ICG Propane operates five service centres focused on auto propane conversions, 18 fleet refuelling facilities and a small research and development facility in Winnipeg.

About one third of ICG Propane's sales are in transportation, where growth is occurring due to propane's reputation as an economical and clean-burning fuel. Other sales are to a broad

range of industrial, commercial, residential, farm and remote location markets.

Because it maintains a decentralized organization and business relationships that are different from Petro-Canada's, ICG Propane Inc. operates as a separate entity, with its head office in Winnipeg. Products continue to be marketed under the ICG brand and all dealings with Petro-Canada are on a commercial basis.

ICG Propane contributed \$30 million to Petro-Canada's cash flow from operations in 1990. Compared to pre-acquisition results, this was a record. Management of operating expenses, attention to the customer and exceptional growth in auto propane in Western Canada were the main reasons for this performance. Propane sales amounted to 1.2 billion litres. Expenditures on property, plant and equipment were \$16 million, including some re-identification expenditures arising from the integration into ICG Propane of Petro-Canada's existing farm and retail propane business.

Following the acquisition, ICG Propane's management undertook a strategic evaluation of customers' needs and expectations. Refocusing on the most important customer expectations permitted a significant reduction in operating costs, most of which will be realized in 1991.

### FINANCIAL

(stated in millions of dollars)

	1990
Earnings	5
Cash flow from operations	30
Expenditures on property, plant and equipment	16

### OPERATING

Propane sales (millions of litres)

1990
1 245

## Corporate Responsibility

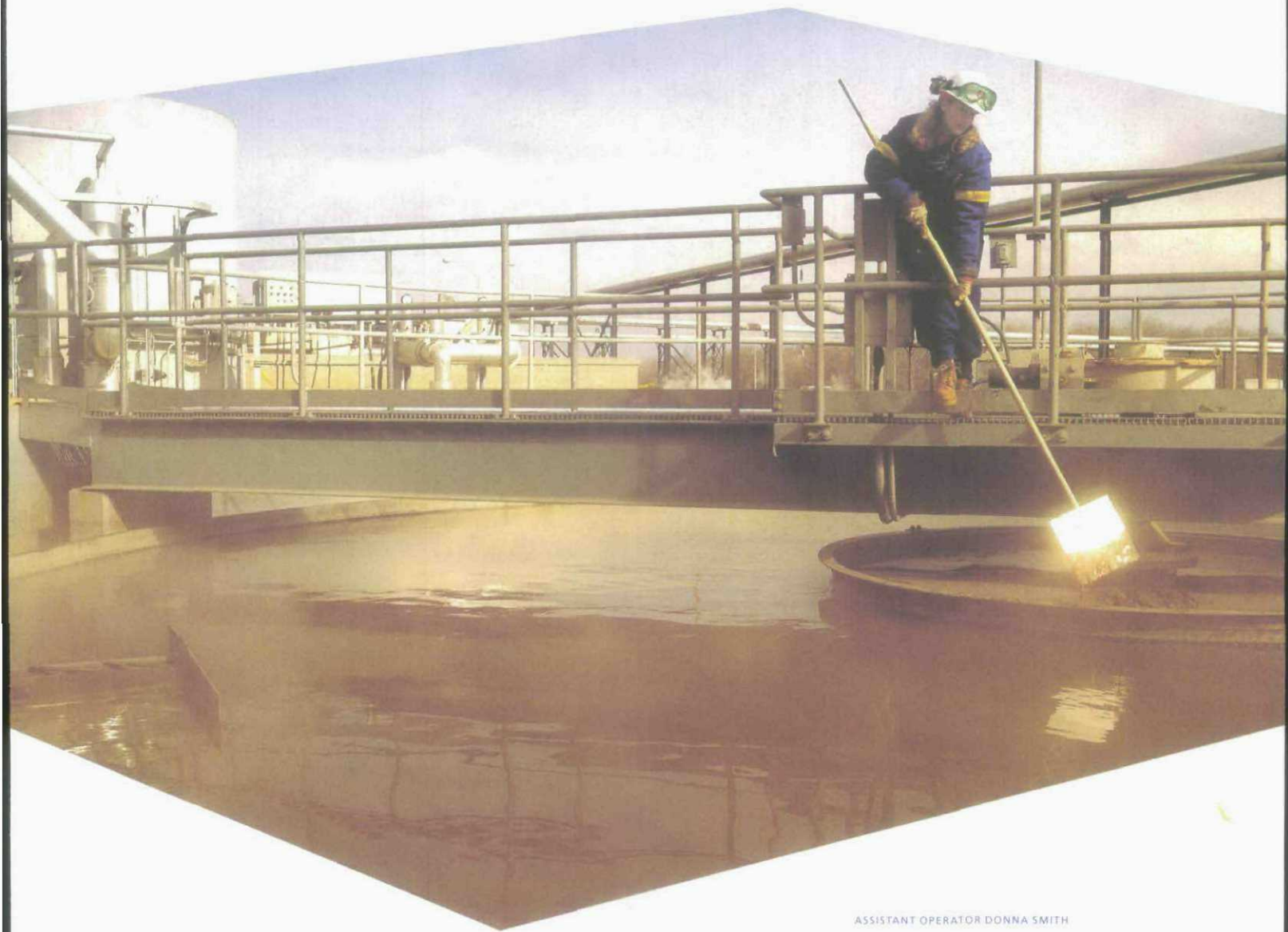
Petro-Canada recognizes that a strong reputation for corporate responsibility contributes significantly to its business and financial success. The Company benefits from the public's identification with

Petro-Canada as "Canada's oil company". Through its actions, the Company must reinforce public support by demonstrating that a commitment to Canadians is an integral part of doing business.

### Safeguarding the environment

- A comprehensive environmental policy defines high standards for corporate performance and makes environmental protection a personal responsibility of each employee.
- 1990 spending on environmental items totalled \$68 million of capital expenditures and \$82 million of expenses; 42 per cent was for Resources, 58 per cent for Products.
- About 70 staff specialists have an environmental, health or safety function; the senior environmental director reports directly to the Chief Operating Officer.
- An issues management system facilitates timely responses on environmental issues.
- Environmental information and procedures are regularly communicated to employees.
- The Company invested \$96 million over three years to re-equip refineries and retail outlets for the elimination of lead from gasolines.
- 581 underground fuel storage tanks at service stations and other facilities were replaced or upgraded in 1990 to eliminate risk of leakage due to corrosion; this was year four of a nine-year \$125 million program.
- Work continued on reducing emissions from gas processing facilities; gas plants at Wildcat Hills and Kaybob were expanded while reducing total emissions.
- Most new retail promotional signs were produced from recycled plastics and printed with non-toxic, biodegradable inks.
- Petro-Canada contributed \$188 035 to the Scouts Canada tree planting program through a Canadian forests postage stamp promotion at retail outlets.
- Suppliers' environmental performance was a factor in awarding the 1990 paper supply contract.
- Rigorous procedures are in place to prevent environmental damage; emergency response plans are in place in case of an accident.
- Petro-Canada is a member of 28 local, regional and international oil spill response cooperatives, often taking a leading management and technical role.
- 17 safety audits were conducted under the International Loss Control Institute program during 1990; Port Moody refinery earned a five-star rating – ILCI's highest.
- Company facilities are inspected or audited regularly to identify and correct potential environmental problems.
- In international operations, Petro-Canada strives to incorporate its Canadian environmental standards in all program activities.
- Innovative technology developed for road construction in Northern Canada was applied in Ecuador to reduce the impact of road construction on tropical forests.
- \$3.6 million was invested in 1990 to support local, regional and national charities.
- Funds were directed primarily to arts and culture, education, health and welfare.
- Petro-Canada supported a full range of arts organizations across Canada, from the Vancouver International Comedy Festival and the Sudbury Symphony to the Festival international de Lanaudière and Charlottetown's Confederation Centre of the Arts.

### Supporting cultural and charitable activities



ASSISTANT OPERATOR DONNA SMITH  
CLEANS CLARIFYING TANK DISTRIBUTOR

NEW WATER TREATMENT FACILITIES AT OAKVILLE PLANT WILL HELP  
IMPROVE QUALITY OF EFFLUENT DISCHARGED TO LAKE ONTARIO

INVESTING TO REDUCE

ENVIRONMENTAL IMPACT

- Several scientific and technical university research chairs received support.
- 31 Native university students received Native Education Awards in 1990.
- The Company and its employees contributed about \$860 000 to United Way campaigns across Canada.
- Television sponsorships supported the production of quality Canadian programs such as "Road to Avonlea".
- The Olympic Torch Legacy Fund keeps the spirit of the Olympic Torch Relay alive, funding scholarships in 1990 to 83 Canadian athletes and eight coaches.
- Petro-Canada contributed \$696 600 to the Torch Fund in 1990 through retail promotions; since 1987, \$5.5 million has been raised through the sale of 55 million Torch Relay glasses.

#### **Working with communities**

- Petro-Canada staff consult with communities wherever projects have potential environmental or socio-economic impacts.
- A large portion of a former refinery site was restored in Ville d'Anjou, near Montreal, and sold in 1990 for development as a golf course and industrial park.
- Petro-Canada dealers and associates sponsored 1 461 local baseball teams through the "PlayBall" program.
- The Company supported many community projects in areas of operations, from the Provost, Alberta, community centre to the Hull, Quebec, "Velobus" safe cyclist path.
- In Calgary, it co-sponsored a Christmas Inter-Faith Food Bank depot, collecting more than 17 000 bags of groceries; in Montreal, employees worked with Sun Youth Organization volunteers to provide food baskets.

#### **A responsible employer**

- Employment equity initiatives have increased the representation of women, aboriginal peoples, people with disabilities and visible minorities.
- Petro-Canada provides a working environment for employees and services to the public in both official languages.
- Employee development is promoted through job postings, developmental assignments, training, seminars and tuition reimbursement.
- Employees with family responsibilities are assisted through part-time jobs and job sharing, flexible hours, day care in Calgary and an expanded parental leave policy.
- Efforts to ensure a safe and healthy workplace include seven occupational health centres, extensive formal safety training, procedures for handling hazardous substances and a smoke-free workplace.
- Employee fitness is encouraged through a fitness club at head office and subsidies for employees to join clubs at other locations.
- An employee assistance program provides confidential personal counselling to employees and their families.

#### **Benefiting the Canadian economy**

- A strict ethical code of conduct applies to all relations with suppliers, associates, customers and the public.
- Purchases of goods and services from more than 35 000 Canadian suppliers in 1990 provided jobs and benefits across the country.
- In 1990, Petro-Canada incurred \$595 million of federal, provincial and municipal taxes, in addition to \$136 million of Crown royalties on oil and gas production.

## Management's Discussion and Analysis

### Results of Operations

#### Business conditions in 1990

Petro-Canada's results are significantly influenced by the business environment, in particular crude oil and natural gas prices and demand for natural gas and refined products.

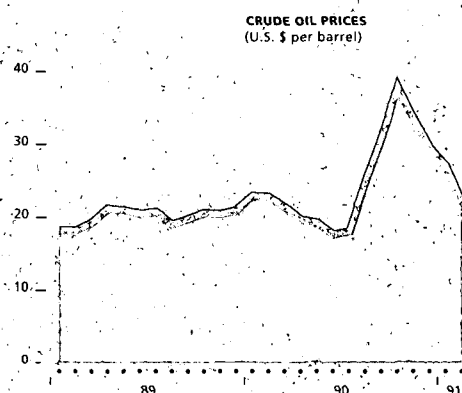
The results of the Natural Resources segment are largely dependent on the price of crude oil on world markets dominated by OPEC. Prices in 1990 were highly volatile, ranging from a low of U.S. \$15.30 per barrel for West Texas Intermediate to a high of U.S. \$40.42 following the invasion of Kuwait. The average for the year was U.S. \$24.50, compared to U.S. \$19.58 in 1989.

In contrast, industry prices for natural gas continued at last year's low levels, averaging \$1.60 per thousand cubic feet for Alberta plant gate gas and \$1.38 for British Columbia wellhead gas, as competition among gas marketers prevented major increases in contract or spot sales prices. Overall, industry sales volumes were down approximately 0.5 per cent from 1989 levels. Record export sales failed to offset a decline of about 4.5 per cent in domestic sales.

Results of the Refined Products segment are affected by crude oil and refined product prices, demand for refined products, local market competition and refinery utilization. The sharply increased volatility of crude oil prices, combined with the traditional lag in adjusting refined product prices and the impact of significant price differentials on product imports from the United States, led to extreme variability in industry refined product margins. The onset of the recession in the Canadian economy depressed industry domestic sales of refined products by about 2.4 per cent below the previous year, particularly affecting sales volumes in Ontario. Retail market competition remained intense during 1990.

#### Consolidated results

Revenues on a consolidated basis rose 17 per cent to \$5 873 million, reflecting higher sales prices and the inclusion, for the first time, of revenues of ICG Propane. Higher prices were offset in part by lower sales of refined products; crude oil and natural gas.



Based on trading month average NYMEX prices (one month forward) for West Texas Intermediate at Cushing.

#### SUMMARY OF SEGMENTED RESULTS

(stated in millions of dollars)

	1990					1989				
	Natural Resources	Refined Products	Corporate and Other	Inter-segment sales	Consolidated	Natural Resources	Refined Products	Corporate and Other	Inter-segment sales	Consolidated
Segment revenue	1 314	4 948	433	(822)	5 873	1 151	4 442	73	(640)	5 026
Net earnings (loss)	203	126	(148)		181	89	104	(173)		20
Cash flow from (used in) operations	480	258	(117)		621	374	237	(159)		452
Proceeds from sales of property, plant and equipment	211	36	9		256	97	21			118
Expenditures on property, plant and equipment and exploration	393	221	29		643	334	209	25		568
Capital employed	2 474	2 964	663		6 101	2 498	2 822	203		5 523
Return on capital employed (per cent)	8.2	4.4	5.1		6.0	3.5	3.8	(13.9)		2.7
Cash flow return on capital employed (per cent)	19.3	8.9	12.2		13.6	14.7	8.7	(9.5)		10.4
Return on equity (per cent)					7.2					0.8

Note:  
This table summarizes information contained in Note 20 to the consolidated financial statements. The results of ICG Propane Inc. are included in the Corporate and Other segment from January 1, 1990.



Consolidated net earnings were \$181 million, compared to \$20 million in 1989. Included in net earnings were \$29 million in gains on disposals of assets, up from \$25 million in the previous year.

The highest average crude price recorded since 1985 was the primary factor in earnings from Natural Resources operations more than doubling. The resultant increase in supply costs to Refined Products was recovered through higher product prices. However, a significant portion of the high-cost supply was held in inventory at year end. Improved margins were the main contributor to the increase in Refined Products earnings.

The cost of crude oil and product purchases rose 27 per cent or \$524 million, primarily as a result of higher crude costs and the inclusion of ICG Propane's cost of sales of \$210 million.

During 1990, the Company realized planned savings of \$167 million in overhead and operating expenses from levels that would otherwise have been reached. These savings were attributable to the internal reorganization and staff reduction program initiated in 1989 at a cost of \$92 million. Countering these savings were operating and general and administrative expenses of ICG Propane totaling \$109 million and increases in costs, due largely to inflation. High refining costs, associated with an unusually high number of maintenance shutdowns at the Company's major refineries and a refinery fire, overshadowed decreases in other producing expenses. Overall, marketing, general and administrative expenses and producing and refining costs declined by \$44 million.

A drop in depreciation, depletion and amortization charges more than offset higher exploration expenses. Federal

sales and other taxes rose mainly due to higher rates of tax on gasoline and higher refined product prices.

Interest expenses were up \$56 million due to higher interest rates and a net increase in total debt of \$294 million, occasioned by the acquisition of ICG Propane and the financing of other investing activities.

Income taxes rose \$115 million as a result of the \$276 million increase in pre-tax earnings. The effective rate for income taxes dropped to 47.8 per cent from 71.8 per cent in 1989, reflecting the proportionately greater impact of non-deductible expenses included in 1989 pre-tax earnings.

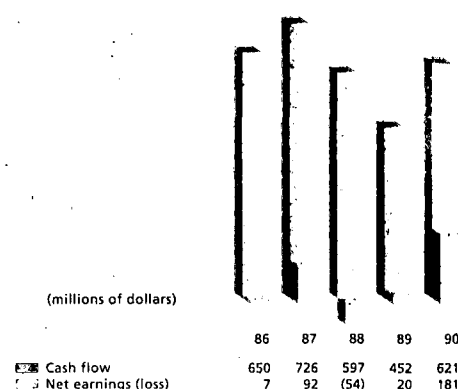
Cash flow return on capital employed was 13.6 per cent, up from 10.4 per cent in 1989 due to higher cash flow from operations before deduction of interest expenses. Improved earnings increased the return on capital employed from 2.7 per cent to 6.0 per cent, while return on equity increased from 0.8 per cent to 7.2 per cent.

#### Natural Resources

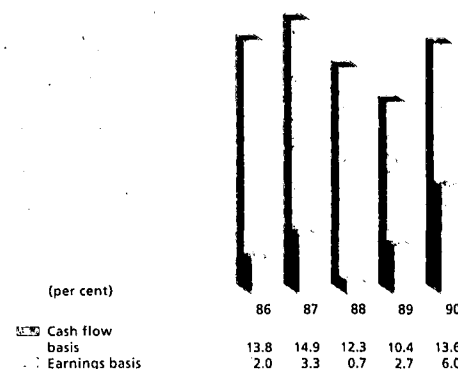
Revenue in Natural Resources was \$1 314 million, an increase of 14 per cent from 1989. Net earnings increased from \$89 million to \$203 million. Gains on asset disposals contributed \$33 million, up from \$23 million in 1989.

This improvement was due to a number of factors. Average sales prices for crude oil, bitumen and field natural gas liquids increased 24 per cent over 1989. Volumes dropped 6 per cent, largely as a result of naturally declining production and the sale of producing properties. Higher crude oil prices, partially offset by lower production volumes and a stronger Canadian/U.S. dollar exchange rate, contributed \$109 million to the

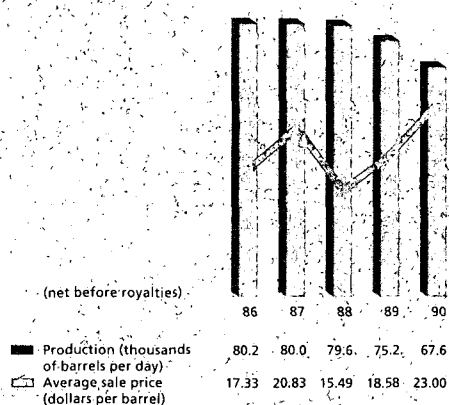
CASH FLOW AND EARNINGS



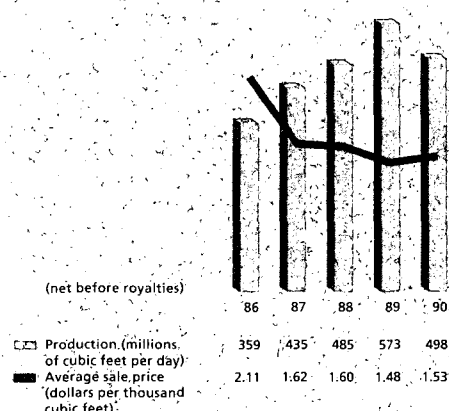
RETURN ON CAPITAL EMPLOYED



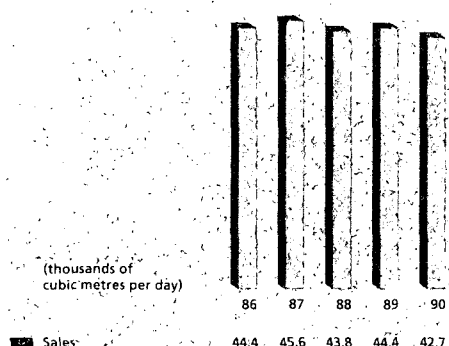
# CONVENTIONAL CRUDE OIL, BITUMEN AND NATURAL GAS LIQUIDS



## NATURAL GAS



## PETROLEUM PRODUCT SALES



revenue increase. Revenue from natural gas sales declined by \$25 million, mainly because of a drop in production volumes of 13 per cent. This drop was caused primarily by price-related export restrictions on British Columbia production and final delivery in 1989 of take-or-pay volumes under a major pipeline contract. Lower deliverability and reduced shipper volumes were also factors. Sale prices for natural gas were up slightly over 1989, averaging \$1.53 per thousand cubic feet. Revenue from natural gas liquids marketing, straddle plants and other businesses improved by \$59 million, mainly as a result of higher prices.

Expenses in the Natural Resources segment included the cost of sales associated with natural gas liquids marketing and straddle plant operations, which rose \$29 million, driven by higher prices on purchases of natural gas liquids. Producing, marketing, general and administrative expenses decreased \$17 million, primarily the result of ongoing programs to control and reduce costs.

The reduction in depreciation, depletion and amortization charges amounting to \$57 million was attributable to lower upstream production in 1990 and certain oil and gas property writedowns recorded in 1989. Somewhat higher exploration expenses were incurred in 1990 due to increased drilling, geophysical and geological expenses.

Income taxes rose \$81 million to a total of \$177 million on increased pre-tax earnings of \$380 million, up from \$185 million in 1989. Segment income taxes were provided at an effective rate of 46.6 per cent, compared to 51.9 per cent in 1989, as non-deductible items had a proportionately smaller impact on taxable earnings in 1990.

## Refined Products

Revenue from Refined Products was \$4 948 million, up 11 per cent from 1989, due to crude oil cost-driven price increases of 16 per cent, partially countered by a decline in sales volumes of approximately 3.8 per cent. Most of the decline in volume resulted from the recession in the Canadian economy. A contributing factor was the closure of marginal facilities.

Operating earnings increased 14 per cent to 2.4 cents per litre from 2.1 cents per litre in 1989. Net earnings were \$126 million, 21 per cent higher than in 1989.

Crude oil and product purchase costs were up 18 per cent in 1990 to \$2 880 million. Refining and other operating costs increased by \$52 million due to an unusually high number of refinery maintenance shutdowns and a refinery fire. These cost increases were offset by savings of \$55 million in marketing and general and administrative expenses related to rationalization and efficiency measures. Federal sales and other taxes were up \$38 million as a result of higher rates of tax on gasoline and higher product prices. Depreciation and amortization charges increased slightly.

Income taxes rose \$8 million to a total of \$96 million on increased pre-tax earnings of \$222 million. Income taxes were provided at a rate of 43.2 per cent, down from 45.8 per cent in 1989, as non-deductible expenses represented a smaller proportion of pre-tax earnings in 1990.

### Corporate and Other

Corporate and Other revenues rose by \$360 million to \$433 million in 1990 with the acquisition of ICG Propane. Segment net losses decreased by \$25 million to \$148 million. Net earnings from ICG Propane were \$5 million after amortization of the non-tax-deductible premium over book value of net assets acquired.

The reduced net loss in 1990 arose from a \$92 million saving in general and administrative expenses linked to the non-recurrence of 1989 charges associated with the internal reorganization and staff reduction program. This saving was offset by an increase in interest expenses of \$56 million due to higher interest rates and an increase in average debt levels. Pre-tax segment losses, excluding ICG Propane, were \$41 million lower, resulting in a reduction in recovery of income taxes of \$21 million.

### Liquidity and Capital Resources

#### Operating activities

The Company has principally relied upon cash from operating activities supplemented by short- and long-term debt financing to fund its cash requirements. Short-term debt is used to fund working capital requirements and to provide

bridge financing. As a Crown corporation, Petro-Canada has not been able to access public equity markets to raise capital for its activities.

Cash flow from operations was \$621 million in 1990, up 37 per cent over 1989, due largely to higher earnings.

The increase in operating working capital of \$307 million was due in part to the effects of significantly higher oil prices on the carrying value of crude oil and refined product inventories, accounts receivable and accounts payable. Other factors included a year-over-year reduction in income taxes payable and in advances owing to the former parent company. The increase in operating working capital would have been higher, were it not for the sale of \$212 million of accounts receivable to a third party. Because of the increase in operating working capital requirements, cash generated from operating activities fell to \$294 million, a drop of \$110 million from 1989. The higher investment in operating working capital served to increase the current ratio to 1.0 from 0.8.

### Accounting Matters

During 1990, the Canadian Institute of Chartered Accountants (CICA) revised its standards on accounting for capital assets. The Company is required to apply these standards either prospectively or retroactively in 1991, but the CICA encourages earlier application. The new standards require changes in Petro-Canada's accounting policies for asset writedowns and for future removal and site restoration costs. The new asset writedown recommendation, which requires the net carrying value of an asset to be written down when it exceeds the net recoverable amount, was adopted prospectively by the Company in 1990. Previously, the Company applied a market value "ceiling test" to capitalized costs in each individual oil and gas producing field. This change in accounting increased 1990 net earnings by \$31 million.

The new recommendation on future removal and site restoration costs requires that these costs be charged to earnings and accrued as a liability when such costs can be reasonably determined and when there is a probability of their being incurred. Petro-Canada is participating with other oil and gas companies to establish industry guidelines for estimating future restoration obligations, with a view to applying the new recommendation in 1991.

The Company reclassified certain items in prior years' consolidated statements of earnings to conform with new CICA recommendations on the presentation of extraordinary items. This reclassification did not affect net earnings.

The Company recorded a prior period adjustment as a result of income tax reassessments and related interest applicable to 1983 and proposed reassessments for other years prior to 1990. The cumulative amount charged to retained earnings as at January 1, 1990, was \$173 million.

These accounting matters are described in more detail in Note 3 to the consolidated financial statements.

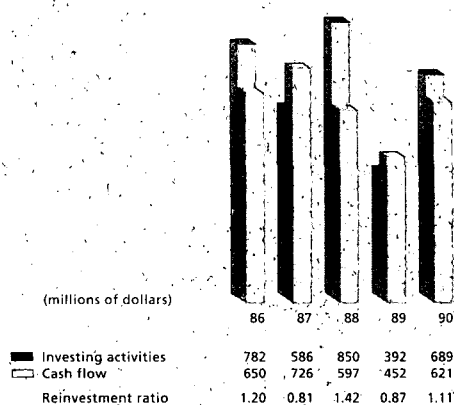
### CORPORATE AND OTHER SEGMENT RESULTS

(stated in millions of dollars)

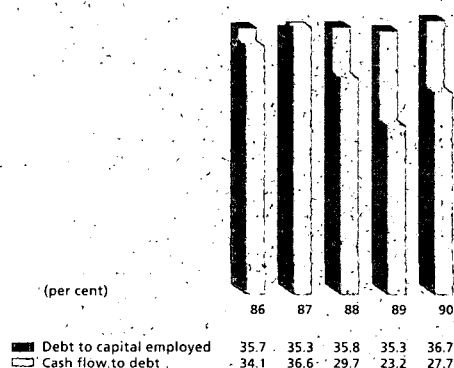
	ICG Propane Inc.		Corporate Activities		Total	
	1990	1989	1990	1989	1990	1989
Segment revenue	362	-	71	73	433	73
Net earnings (loss)	5	-	(153)	(173)	(148)	(173)
Cash flow from (used in) operations	30	-	(147)	(159)	(117)	(159)

Note:  
The Corporate and Other segment includes the results of operations of ICG Propane from January 1, 1990.

# INVESTING ACTIVITIES AND CASH FLOW



# DEBT TO CAPITAL EMPLOYED AND CASH FLOW TO DEBT



## Investing activities

Investing activities in 1990 totalled \$689 million, of which \$235 million was attributable to the acquisition of ICG Propane.

Expenditures on property, plant and equipment and exploration totalled \$643 million, up \$75 million over 1989. The Natural Resources segment accounted for 61 per cent of the outlay, compared to 59 per cent in 1989. Refining, marketing and other expenditures accounted for 39 per cent in 1990 and 41 per cent in 1989. The reinvestment rate of cash flow from operations rose to 111 per cent from 87 per cent in 1989.

Consistent with the Company's strategy, expenditures in Natural Resources in 1990 and 1989 focused on exploration and development in Western Canada and on international exploration. Expenditures in 1990 for conventional activities in Western Canada were \$90 million for exploration and \$106 million for development. Acquisitions of producing properties totalled \$95 million. Spending in international areas amounted to \$45 million and in oil sands and frontier areas \$57 million. Of the latter amount, \$12 million was related to the Hibernia project.

Refined Products expenditures on property, plant and equipment were \$221 million in 1990, a small increase over 1989. Refining expenditures of \$89 million were concentrated on reliability, environmental and safety programs. Marketing and other expenditures of \$132 million included \$59 million for the Company's 50 per cent share of MTBE plant construction costs. The balance was directed at the marketing network, especially retail site upgrading and underground tank replacement. Completion of the MTBE plant is expected by early 1992 at a total cost of \$390 million.

Expenditures for Corporate and Other property, plant and equipment were \$29 million, including \$16 million in ICG Propane. Spending in 1989 was \$25 million.

Environmental capital expenditures, included in expenditures on property, plant and equipment and exploration, totalled \$68 million compared with \$118 million in 1989. The majority of these costs were incurred in Refined Products in connection with the phase-out of leaded gasolines, refinery wastewater

## SUMMARY OF STATEMENT OF CHANGES IN FINANCIAL POSITION (stated in millions of dollars)

	1990	1989
<b>Operating activities</b>		
Cash flow from operations	621	452
Decrease in advances on future natural gas deliveries	(20)	(26)
Increase in operating working capital	(307)	(22)
	294	404
<b>Investing activities</b>	(689)	(392)
<b>Financing activities and dividends</b>	404	(69)
<b>Increase (decrease) in cash</b>	9	(57)

quality improvements and the upgrading of storage tanks at retail and wholesale marketing sites.

Proceeds from sales of assets generated \$256 million, compared to \$118 million in 1989. These sales were made as part of the Company's ongoing asset rationalization program. Proceeds of \$211 million were realized from sales of oil and gas properties and an interest in the Sedco 710 semi-submersible drilling rig. Sales of retail and wholesale marketing assets contributed \$36 million, while other assets were sold for \$9 million.

Increases in investments and other assets totalled \$67 million in 1990, as additional treasury shares issued by Westcoast Energy Inc. were subscribed for on a pro rata basis. This maintained an equity position of 37 per cent. In 1989, a reduction in investments combined with increases in other assets generated net funds of \$58 million. Partial repayment to Petro-Canada of advances to Petro-Canada Centre was offset by Westcoast share purchases and additional pension funding.

#### **Financing activities and dividends**

The combined short-and long-term debt level was \$2 242 million at year end, an increase of \$294 million over the previous year. The increase consisted of new long-term debt of \$348 million, partially offset by repayments and the retirement of three outstanding debt issues amounting to \$51 million. New long-term debt consisted of a placement of U.S. \$300 million, 20-year debentures with a coupon rate of 8.60 per cent. This long-term financing was undertaken to repay

short-term notes payable and thereby lessen the Company's exposure to fluctuations in short-term interest rates.

Common shares were issued to Petro-Canada Limited for proceeds of \$158 million. Dividends paid on common shares were \$45 million in both 1990 and 1989.

A key financing objective of the Company is a prudent capital structure which balances business and financial risks while seeking financial market opportunities. As a key component of its borrowing strategy, the Company seeks to match the average term to maturity of long-term debt to the average life of its assets. At year end, the average term to maturity of Petro-Canada's long-term debt was approximately 15 years. Working capital and bridge financing requirements will continue to be met through the issuance of short-term debt.

Other financing obligations consisted of indemnities with respect to \$230 million of long-term debt associated with Petro-Canada Centre, an office complex in which the Company holds a 50 per cent interest.

The Company's cash flow to debt ratio was 27.7 per cent at year end, up from 23.2 per cent in 1989 due to improved cash flow. Higher debt levels caused a slight year-over-year deterioration in the debt to capital employed and debt to debt plus equity ratios.

#### **Risk Management**

**The Company continues to mitigate financial risks through the ongoing rebalancing of its fixed/floating rate debt to minimize the impact of interest rate fluctuations. Petro-Canada also diversifies its sources of funds and maintains an evenly distributed spectrum of long-term debt maturities while controlling the overall levels of borrowing.**

**Petro-Canada employs risk management strategies for its insurance program and in dealing with volatility in exchange rates, interest rates and commodity prices.**

**The broadest insurance coverage available is purchased in the world market for the full spectrum of the Company's insurable risks. Insurance limits, consistent with industry practice, are based on the largest probable loss estimates. Retentions, in the form of deductibles and self-insurance, are set at conservative levels.**

**As crude oil is priced in U.S. dollars, a significant portion of Petro-Canada's revenues is affected by fluctuations in the Canadian/U.S. exchange rate. Long-term borrowing requirements are funded primarily in U.S. dollars, providing a partial hedge against such currency fluctuations. The Company continually monitors its foreign currency requirements and applies hedging strategies to mitigate the risk of loss due to currency fluctuations. Borrowing in the United States also provides access to a larger and at times less expensive debt market than is available in Canada.**

**Petro-Canada hedges against adverse price movements in its basic products through a limited program of trading crude oil in commodity futures markets. The value of hedges and open positions at year end was not material.**



### Outlook for 1991

The view of many economic analysts is that the business climate in 1991 will remain influenced by the same forces underlying the unsettled environment of 1990. The recession in Canada is expected to last beyond mid 1991. If oil prices stay in the range of U.S. \$18 to \$23 per barrel for West Texas Intermediate, and short-term interest rates continue on a declining trend, economic recovery could start in the third quarter.

The Gulf war introduced a major element of uncertainty into the business outlook. The cessation of hostilities, combined with ample crude oil supplies on world markets, could depress crude oil prices in the short term.

Natural gas prices are likely to remain approximately at 1990 levels as excess production capability and transportation constraints remain the major factors underlying the intensely competitive North American natural gas market. The volume of Canadian exports to U.S. markets is expected to improve marginally from last year's 1.4 trillion cubic feet. The longer-term outlook for higher prices and sales volumes remains favourable.

The expectation for 1991 is that industry sales of refined products will be slightly below last year's level. It is anticipated that demand for refined products will increase once the current economic recession eases, possibly later in 1991, then grow modestly thereafter. Competition is expected to remain strong in the downstream while refiners and marketers continue efforts to rationalize overcapacity in some regions. Refined product margins will remain under the influence of a number of complex, inter-related factors, including local market competition, the cost of refined products imported from the United States, crude oil costs and the relative cost efficiencies

of companies engaged in refining and marketing.

Barring unforeseen circumstances, Petro-Canada's levels of operations in 1991 are expected to be similar to those in 1990. Planned development initiatives in the upstream should stabilize crude oil and natural gas liquids production at about the 1990 level. Natural gas production is expected to increase slightly. In the downstream, sales volumes of refined product should approximate 1990 levels as lower crude oil prices, improved economic activity and marketing strategies begin to reverse the decline experienced in 1990.

Petro-Canada entered 1991 with downstream petroleum inventories for which the crude oil component had been purchased at costs averaging U.S. \$33 per barrel. At the commencement of hostilities in the Persian Gulf in January 1991, crude oil prices dropped by U.S. \$13 over a two-day period, a clear illustration of the exceptionally volatile and unique environment governing world crude oil markets. Crude oil prices have not recovered since then. Earnings are expected to decline significantly in the first quarter of 1991, especially from Refined Products, due to the drop in both crude oil and refined product selling prices in early 1991, compounded by the flow-through of high-cost crude oil inventories to cost of sales.

Based on actual levels of operations in 1990, the main factors which affected pre-tax cash flow from operations are shown in the "Sensitivities" table. As the factors may be interrelated, the impact of a change in one factor may be compounded or offset by changes in other factors. The application of these sensitivities may not necessarily lead to an accurate prediction of future results of operations.

Future capital expenditures will be financed primarily by cash from operations and proceeds from asset sales. Subject to business conditions and the achievement of asset sales objectives, Petro-Canada anticipates that capital and exploration expenditures will approach \$860 million in 1991. Excluding the \$235 million acquisition of ICG Propane in 1990, that is an increase of \$150 million over 1990. Added expenditures, as currently planned, relate mainly to the Hibernia offshore project, MTBE plant construction and upgrading of downstream facilities.

On the basis of the agreement signed in late 1990 to proceed with Hibernia, Petro-Canada as a 25 per cent participant expects to incur approximately \$1.1 billion of estimated pre-production expenditures over the 1991-1996 period after federal

and provincial government grants. In 1991, expenditures net of grants are expected to be \$100 million, with a further \$200 million in each of 1992 and 1993.

The asset rationalization program will continue in 1991 and 1992. Both Natural Resources and Refined Products assets will be involved. Early in 1991, the Company announced it will close its refinery at Taylor, British Columbia, and sell associated assets for net proceeds of \$13 million.

A key management objective in 1991 is the successful privatization of Petro-Canada. The public offering of shares will allow the Company to reduce its short-term debt, thereby strengthening its capital structure.

## Effects of inflation

**The Company's capital expenditures and operating, marketing, general and administrative expenses are subject to the effects of inflation. Prices received for oil and gas production are not readily adjustable to cover any inflation-related increase in costs.**

## SENSITIVITIES AFFECTING PRE-TAX CASH FLOW FROM OPERATIONS (based on actual levels of operations in 1990)

Factor	Average 1990	Increase	Approximate increase (decrease) on pre-tax cash flow from operations (millions of dollars)
<b>Natural Resources</b>			
Price of crude oil	U.S. \$24.50 per barrel	U.S. \$1.00 per barrel	\$27
Price of natural gas	\$1.53 per thousand cubic feet	\$0.10 per thousand cubic feet	14
Production of conventional crude oil	52 000 barrels per day	1 000 barrels per day	7
Production of natural gas	498 million cubic feet per day	10 million cubic feet per day	5
Canadian dollar/U.S. dollar exchange rate	\$0.86	\$0.01	(8)
<b>Refined Products<sup>2</sup></b>			
Average sales price of gasoline <sup>3</sup>	\$0.34 per litre	\$0.01 per litre	71
Crude oil and product purchases	\$9.21 per cubic metre	\$1.00 per cubic metre	(15)
Petroleum product operating margins <sup>4</sup>	2.4 cents per litre	0.1 cents per litre	16

### Notes:

1. As the factors noted may be interrelated, the impact of a change in one factor may be compounded or offset by changes in other factors. The application of these sensitivities may not necessarily lead to an accurate prediction of future results of operations.

2. Impacts related to Refined Products are independent of those related to Natural Resources.

3. Average sales price of gasoline does not include federal excise taxes or provincial motor fuel taxes.

4. Operating earnings before depreciation, amortization and income taxes.

### Refined Product Pricing and Crude Oil Costs

Many factors influence refined product prices in the marketplace besides crude oil costs and sales taxes.

In the short run, competitive conditions in local markets remain the most important determinant of motor gasoline prices. Over time, refiners seek to recover raw material costs, but competition prevents any direct flow-through to product prices, which are set by the market and thus difficult to predict.

The distance between the primary sources of crude oil purchases, in Western Canada, and the major markets for refined products, in Central Canada, results in a 60 to 90 day delay before purchased crude oil is transformed into refined product and sold to the end user. Consequently, the flow-through of crude oil costs to Canadian consumers normally lags behind current crude oil costs.

Most Canadian refiners adhere to an accounting procedure which matches finished product sales to the physical flow of crude oil, commonly referred to as "first-in, first-out" or "FIFO". Thus, the price of the first barrel of crude oil placed in inventory should be reflected in the first litre of refined product sold.

Conversely, most U.S. companies employ an accounting procedure known as "last-in, first-out" or "LIFO". This method of inventory costing matches the cost of the most recent barrel of crude oil placed in inventory with the price of the first gallon of product sold. As a result, there is a high correlation between current crude oil costs and refined product prices, with little or none of the delay prevalent in the Canadian market.

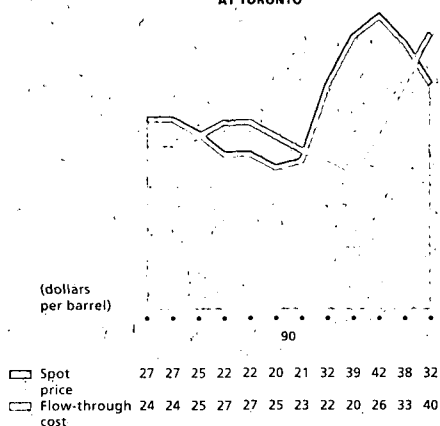
With an open border permitting access on both sides to refined product at the wholesale or "rack" level, these contrasting methods of inventory costing have a major impact on Canadian product pricing. The impact is particularly large during periods of extreme volatility in crude oil prices, as in the latter part of 1990 and early 1991.

During periods of rising crude costs, refined product prices in the United States rise more quickly than in Canada, reflecting the differences between the FIFO and LIFO inventory costing methods. Cross-border purchases by U.S. marketers of lower-priced Canadian products contribute to the firming of prices in Canada. With an increase in competitive activity and a more rapid drawdown of refined product inventories, Canadian prices may actually increase differently from what would be expected, sometimes lagging and sometimes leading the actual flow-through of crude oil costs.

During periods of falling crude oil costs, the opposite occurs. Canadian "rack" purchasers import lower-priced refined products from the United States. Lower U.S. prices and the competitive nature of petroleum marketing in North America exert downward pressure on prices, often much more quickly than would allow Canadian refiners to recover the actual flow-through cost of crude oil.

These striking differences between inventory costing methods in the Canadian and U.S. markets contributed to the Canadian downstream industry's strong financial performance during the second half of 1990, a period of rising crude oil costs. For the same reason, depressed earnings are anticipated during the first quarter of 1991, when crude oil prices dropped sharply.

SPOT CRUDE OIL PRICES AND  
FLOW-THROUGH CRUDE OIL COST  
AT TORONTO



## Glossary of Financial Terms and Ratios

### TERMS

#### Cash flow

Cash flow from operations<sup>1</sup>.

#### Capital employed

Total assets less current liabilities excluding short-term notes payable and the current portion of long-term debt.

#### Debt

Short-term notes payable and long-term debt including current portion<sup>2</sup>.

### RATIOS

#### Current ratio

Current assets divided by current liabilities. Reflects the Company's short-term liquidity and its ability to pay short-term trade debts.

#### Cash flow to debt

Cash flow divided by debt. Indicates the Company's ability to discharge its outstanding debt.

#### Debt to debt plus equity

Debt divided by debt plus equity<sup>3</sup>. Shows the relative amount of debt in the Company's capital structure. It is a measure of financial strength.

#### Debt to capital employed

Debt divided by capital employed. Measures the extent to which the Company's asset base has been financed by debt.

#### Interest coverage

Earnings basis: Earnings<sup>4</sup> before interest expense and provision for income taxes divided by interest expense plus capitalized interest<sup>5</sup>. Cash flow basis: Cash flow<sup>4</sup> before interest expense and current income taxes divided by interest expense plus capitalized interest<sup>5</sup>. Both are indicators of the Company's ability to service its debt.

#### Reinvestment ratio

Net expenditures on investing activities divided by cash flow. Indicates the rate at which cash flow is reinvested.

#### Cash flow return on capital employed

Cash flow<sup>4</sup> plus after-tax interest expense divided by average capital employed. Measures cash flow generated relative to the asset base.

#### Return on capital employed

Net earnings<sup>4</sup> plus after-tax interest expense divided by average capital employed. Measures earnings generated relative to the asset base.

#### Return on equity

Net earnings divided by average shareholder's equity<sup>3</sup>. Measures the return earned by the shareholder on its investment in the Company.

#### Notes:

- 1 Prior to 1989 – deduct dividends on redeemable preferred shares.
- 2 Prior to 1988 – add redeemable preferred shares valued at year end Cdn./U.S. dollar exchange rates.
- 3 Prior to 1988 – reduce shareholder's equity by the valuation adjustment on redeemable preferred shares at year-end Cdn./U.S. dollar exchange rates.
- 4 Prior to 1989 – add back dividends on redeemable preferred shares.
- 5 Prior to 1989 – add back dividends on redeemable preferred shares grossed up by 1/1 – tax rate.

## Management's Responsibility

### for the Financial Statements

The financial statements have been prepared by management in accordance with generally accepted accounting principles appropriate in the circumstances. Management is responsible for the other information in the Annual Report, which is consistent, where applicable, with that contained in the financial statements. Management is also responsible for installing and maintaining a system of internal control to provide reasonable assurance that reliable financial information is produced. The Company has an internal audit department whose functions include reviewing the system of internal control to ensure that it is adequate and functioning properly.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal control. This responsibility has been carried out by the Board of Directors of Petro-Canada Limited (formerly Petro-Canada), the former parent company, principally through its Audit Committee. The Audit Committee has met with management, the internal auditors and the external auditors to satisfy itself that responsibilities were discharged properly and to review the financial statements.

The external auditors conduct an independent examination, in accordance with generally accepted auditing standards, and express their opinion on the financial statements. Their examination includes a review and evaluation of the Company's system of internal control and appropriate tests and procedures to provide reasonable assurance that the financial statements are presented fairly. The external auditors have full and free access to the Audit Committee of the Board.

## Auditors' Report

To the Honourable John McDermid, P.C., M.P.  
Minister of State (Privatization and Regulatory Affairs)  
House of Commons, Ottawa, Ontario

We have audited the consolidated balance sheet of Petro-Canada (formerly Petro-Canada Inc.) as at December 31, 1990 and 1989 and the consolidated statements of earnings, retained earnings and changes in financial position for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these consolidated financial statements present fairly, in all material respects, the financial position of the Company as at December 31, 1990 and 1989 and the results of its operations and the changes in its financial position for the years then ended in accordance with generally accepted accounting principles. As required by the Financial Administration Act, we report that, in our opinion, except for the change in the method of accounting for capital asset writedowns as explained in Note 3(b) to the consolidated financial statements, the accounting principles have been applied, after giving retroactive effect to the change in the method of accounting for extraordinary items as explained in Note 3(a) to the consolidated financial statements, on a consistent basis.

Further, we have audited the transactions of the Company and its consolidated wholly-owned subsidiaries that came to our notice in the course of the above mentioned audits, to determine whether they were in accordance with Part X of the Financial Administration Act, the regulations, the charter and by-laws of the Company and its consolidated wholly-owned subsidiaries and any directives given to the Company pursuant to the Act. Our examinations of these transactions were made in accordance with generally accepted auditing standards. In our opinion, these transactions were, in all significant respects, in compliance with the authorities specified.

*Arthur Anderson & Co.*

Chartered Accountants

Calgary, Alberta  
February 15, 1991



PETRO-CANADA  
(Formerly Petro-Canada Inc.)

### Consolidated Statement of Earnings

For the years ended December 31,  
(stated in millions of dollars)

	1990	1989 (Restated) (Note 3)
<b>Revenue</b>		
Operating	\$ 5 680	\$ 4 852
Investment and other income	193	174
	<u>5 873</u>	<u>5 026</u>
<b>Expenses</b>		
Crude oil and product purchases	2 501	1 977
Marketing, general and administrative (Note 5)	995	1 064
Producing and refining	839	814
Exploration	111	98
Depreciation, depletion and amortization	373	396
Federal sales and other taxes (Note 6)	429	384
Interest on long-term debt	137	101
Other interest	141	121
	<u>5 526</u>	<u>4 955</u>
<b>Earnings before Income Taxes</b>	<u>347</u>	<u>71</u>
<b>Provision for Income Taxes</b> (Note 7)		
Current	130	52
Deferred	36	(1)
	<u>166</u>	<u>51</u>
<b>Net Earnings</b>	<u>\$ 181</u>	<u>\$ 20</u>

### Consolidated Statement of Retained Earnings

For the years ended December 31,  
(stated in millions of dollars)

	1990	1989 (Restated) (Note 3)
<b>Retained Earnings (Deficit) at Beginning of Year,</b> as previously reported	\$ -	\$ (987)
Prior period adjustment (Note 3)	(173)	(148)
<b>Retained Earnings (Deficit) at Beginning of Year,</b> as restated	(173)	(1 135)
Transfer from contributed surplus (Note 17)	135	987
Net earnings	181	20
Dividends on common shares	(45)	(45)
<b>Retained Earnings (Deficit) at End of Year</b>	<u>\$ 98</u>	<u>\$ (173)</u>

PETRO-CANADA  
(Formerly Petro-Canada Inc.)

# **Consolidated Statement of Changes in Financial Position**

For the years ended December 31,  
(stated in millions of dollars)

	1990	1989 (Restated) (Note 3)
<b>Operating Activities</b>		
Net earnings	\$ 181	\$ 20
Non-cash items included in earnings (Note 8)	329	334
Exploration expenses	111	98
Cash flow from operations	621	452
Decrease in advances on future natural gas deliveries	(20)	(26)
Increase in operating working capital (Note 9)	(307)	(22)
	<u>294</u>	<u>404</u>
<b>Investing Activities</b>		
Acquisition of ICG Propane Inc. (Note 4)	(235)	—
Expenditures on property, plant and equipment and exploration	(643)	(568)
Proceeds from sale of property, plant and equipment	256	118
(Increase) decrease in investments, net	(50)	76
Increase in other assets, net	(17)	(18)
	<u>(689)</u>	<u>(392)</u>
<b>Financing Activities and Dividends</b>		
Proceeds from issue of long-term debt	347	240
Proceeds from issue of common shares	158	—
Decrease in short-term notes payable, net	(5)	(258)
Dividends on common shares	(45)	(45)
Reduction of long-term debt	(51)	(6)
	<u>404</u>	<u>(69)</u>
<b>Increase (Decrease) in Cash</b>	<b>9</b>	<b>(57)</b>
<b>Cash and Short-Term Deposits at Beginning of Year</b>	<b>27</b>	<b>84</b>
<b>Cash and Short-Term Deposits at End of Year</b>	<b>\$ 36</b>	<b>\$ 27</b>

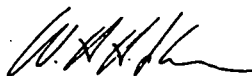
PETRO-CANADA  
(Formerly Petro-Canada Inc.)

## Consolidated Balance Sheet

As at December 31,  
(stated in millions of dollars)

	1990	1989 (Restated) (Note 3)
<b>Assets</b>		
<b>Current Assets</b>		
Cash and short-term deposits	\$ 36	\$ 27
Accounts receivable (Note 10)	773	808
Inventories (Note 11)	964	677
Prepaid expenses	48	45
	<u>1 821</u>	<u>1 557</u>
<b>Investments</b> (Note 12)	504	467
<b>Property, Plant and Equipment, net</b> (Note 13)	4 778	4 626
<b>Other Assets</b> (Note 14)	<u>175</u>	<u>93</u>
	<u>\$ 7 278</u>	<u>\$ 6 743</u>
<b>Liabilities and Shareholder's Equity</b>		
<b>Current Liabilities</b>		
Short-term notes payable (Note 19)	\$ 705	\$ 710
Accounts payable and accrued liabilities	1 043	875
Income taxes payable	134	197
Advances (Note 19)	-	148
Current portion of long-term debt	-	6
	<u>1 882</u>	<u>1 936</u>
<b>Long-Term Debt</b> (Note 15)	1 537	1 232
<b>Deferred Credits</b> (Note 16)	191	231
<b>Deferred Income Taxes</b>	997	967
<b>Shareholder's Equity</b> (Note 17)	<u>2 671</u>	<u>2 377</u>
	<u>\$ 7 278</u>	<u>\$ 6 743</u>

Approved on behalf of the Board



Director



Director

## Notes to Consolidated Financial Statements

(stated in millions of dollars)

### Note 1: Summary of Significant Accounting Policies

#### (a) Basis of Consolidation

The consolidated financial statements include the accounts of Petro-Canada (formerly Petro-Canada Inc.) and of all subsidiary companies ("the Company").

The excess of the consideration paid for the shares of subsidiaries over the underlying net book values at the dates of acquisition is attributed to the related assets acquired and is amortized over the life of these assets.

#### (b) Inventories

Inventories are stated at the lower of cost and net realizable value. Cost of crude oil, refined products and merchandise is determined on a "first-in, first-out" basis.

#### (c) Investments

The Company accounts for investments in companies over which it has significant influence on the equity method. Other long-term investments are accounted for on the cost method.

#### (d) Property, Plant and Equipment

The Company accounts for its investment in exploration and development activities on the successful efforts method. Under this method the acquisition cost of unproved acreage is capitalized. Costs of exploratory wells are initially capitalized pending determination of proved reserves and costs of wells which are assigned proved reserves remain capitalized while costs of unsuccessful wells are charged to earnings. All other exploration costs are charged to earnings as incurred. Development costs, including the cost of all wells, are capitalized.

Substantially all of the Company's exploration and development activities are conducted jointly with others. Only the Company's proportionate interest in such activities is reflected in the financial statements.

The interest cost of debt attributable to the construction of major new facilities is capitalized during the construction period.

Overburden removal costs relating to oil sands which will be mined in future years are deferred and are charged to earnings when the related oil sands are mined.

#### (e) Depreciation, Depletion and Amortization

The carrying amounts of significant unproved properties are evaluated periodically for impairment with any such impairment being charged to earnings. The cost of other unproved properties is amortized over their average holding period.

Depreciation and depletion of capitalized costs of oil and gas producing properties is calculated using the unit of production method:

Depreciation of other plant and equipment is provided on either the unit of production method or the straight line method as appropriate. Straight line depreciation rates are based on the estimated service lives of the related assets.

## Notes to Consolidated Financial Statements

(stated in millions of dollars)

### Note 1: (Continued)

#### (f) Income Taxes

The Company makes full provision for income taxes deferred as the result of claiming depreciation, exploration, development and other costs for income tax purposes which differ from the related amounts charged to earnings.

#### (g) Translation of Foreign Currency

Monetary assets and liabilities are translated into Canadian dollars at rates of exchange in effect at the balance sheet date. Other assets and related depreciation, depletion and amortization, other liabilities, revenue and other expense items are translated at rates of exchange in effect at the respective transaction dates. The resulting exchange gains or losses are included in earnings, except for unrealized exchange gains or losses arising on translation of long-term debt, which are deferred and amortized over the remaining term of the debt.

Foreign operations are integrated with the Company's other activities and are translated in the manner described above.

#### (h) Postemployment Benefits

In addition to its pension plans the Company provides for other postemployment benefits, including health, dental and life insurance, to its qualifying retirees. The cost of these benefits is charged to earnings when paid by the Company.

### Note 2: The Petro-Canada Public Participation Act

On February 1, 1991 the Petro-Canada Public Participation Act ("the Act") received Royal Assent. The Act authorizes the Company to proceed with an Initial Public Offering of shares of the Company to the public subject to restrictions on non-resident and individual share ownership of 25% and 10%, respectively.

The Act also provides that:

- the name of the Company is changed from Petro-Canada Inc. to Petro-Canada,
- the name of the former parent company is changed from Petro-Canada to Petro-Canada Limited,
- the shares of the Company held by Petro-Canada Limited are transferred to the Minister of State (Privatization and Regulatory Affairs),
- the Company's head office will be situated in Calgary, and
- the sale of substantially all of the assets of individual business segments is restricted.

The Company is negotiating arrangements for its short-term and long-term financing requirements, including the servicing and refinancing of its present indebtedness to Petro-Canada Limited.



## Notes to Consolidated Financial Statements

(stated in millions of dollars)

### Note 3: Accounting Changes and Prior Period Adjustment

#### Changes in Accounting Policies

(a) In 1990 the Company adopted, retroactively, the new recommendations of the Canadian Institute of Chartered Accountants on the presentation of extraordinary items. Items previously reported as extraordinary have been reclassified as expenses of continuing operations and the related income tax effects have been included with the provision for income taxes.

(b) In 1990 the Company adopted, prospectively, the new recommendations of the Canadian Institute of Chartered Accountants on capital asset writedowns. The new recommendations require a writedown when the net carrying amount of an asset exceeds the net recoverable amount. Previously the Company applied a "ceiling test" to capitalized costs of oil and gas producing properties to ensure that these costs in each individual field did not exceed the fair market value of the related proved reserves. The effect of this change was to increase 1990 net earnings by \$31 million.

#### Prior Period Adjustment

In 1990 the Company was reassessed for income taxes and related interest for the 1983 taxation year and was notified of proposed reassessments for other years prior to 1990. As a result, the previously reported income tax provisions, net earnings and retained earnings have been adjusted and the financial statements for these years have been restated. Accordingly, retained earnings as at January 1, 1990 and 1989 have been reduced by \$173 million and \$148 million, and 1990 and 1989 net earnings have been reduced by \$17 million and \$25 million, respectively.

### Note 4: Acquisition of ICG Propane Inc.

In 1990 the Company completed its acquisition of ICG Propane Inc., the propane division of Inter-City Gas Corporation. This acquisition was effective January 1, 1990 and has been accounted for by the purchase method as follows:

Book value of assets acquired		\$	164
Book value of assumed liabilities			(78)
			<u>86</u>
Excess of attributed value over book value of acquired net assets:			
Property, plant and equipment	\$	71	
Goodwill		<u>78</u>	149
Total cost of acquisition		\$	<u>235</u>

Funds for the acquisition were provided from cash flow from operations and short-term borrowings.

### Note 5: Marketing, General and Administrative

In 1989 the Company implemented an internal reorganization program which resulted in a staff reduction. The cost of this program, in the amount of \$92 million, is included in 1989 marketing, general and administrative expenses.

# **Notes to Consolidated Financial Statements**

(stated in millions of dollars)

## **Note 6: Taxes and Crown Royalties**

	<b>1990</b>	<b>1989</b>
Items included in the statement of earnings:		
Federal sales taxes	\$ 363	\$ 328
Other taxes	66	56
	429	384
Provision for income taxes	166	51
	<u>\$ 595</u>	<u>\$ 435</u>

In addition, Crown royalties paid and paid in kind of \$136 million (1989 – \$133 million) together with federal excise taxes and provincial fuel and sales taxes of \$1 675 million (1989 – \$1 554 million) are not included in the statement of earnings.

## **Note 7: Income Taxes**

The provision for income taxes of \$166 million (1989 – \$51 million) represents an effective rate of 47.8% (1989 – 71.8%) on earnings before income taxes of \$347 million (1989 – \$71 million). The computation of the provision, which requires adjustment to earnings before income taxes for non-taxable and non-allowable items, is as follows:

	<b>1990</b>	<b>1989</b>
Earnings before income taxes	\$ 347	\$ 71
Add (deduct)		
Royalties and other payments to provincial governments, net	139	137
Federal allowances		
Resource allowance	(133)	(103)
Tax depletion	-	(36)
Non-deductible depreciation, depletion and amortization	73	68
Non-deductible interest	17	20
Non-taxable gains	(6)	(7)
Equity in earnings of affiliates	(37)	(31)
Other	(19)	(8)
Earnings as adjusted before income taxes	<u>\$ 381</u>	<u>\$ 111</u>
Canadian Federal income tax at 38.0% (1989 – 39.5%) applied to earnings as adjusted	\$ 145	\$ 44
Large Corporations Tax	10	5
Provincial and other income taxes, net of federal abatement	13	7
Provincial income tax rebates	(2)	(5)
Provision for income taxes	<u>\$ 166</u>	<u>\$ 51</u>

## Notes to Consolidated Financial Statements

(stated in millions of dollars)

### Note 8: Non-Cash Items Included in Earnings

	1990	1989
Depreciation, depletion and amortization	\$ 373	\$ 396
Gain on sale of property, plant and equipment	(69)	(45)
Deferred income taxes	36	(1)
Equity earnings, net of dividends received	(9)	(6)
Other	(2)	(10)
	<u>\$ 329</u>	<u>\$ 334</u>

### Note 9: Increase in Operating Working Capital

	1990	1989
Accounts receivable	\$ 35	\$ (73)
Inventories	(287)	(117)
Prepaid expenses	(3)	(4)
Accounts payable and accrued liabilities	168	110
Income taxes payable	(63)	17
Advances	(148)	45
Other	(9)	—
	<u>\$ (307)</u>	<u>\$ (22)</u>

Operating working capital is comprised of working capital other than cash and short-term deposits, short-term notes payable and current portion of long-term debt.

### Note 10: Accounts Receivable

In 1990 the Company entered into an agreement to sell, with limited recourse, accounts receivable on a revolving basis. As at December 31, 1990 accounts receivable of \$212 million have been sold pursuant to this agreement, resulting in cash proceeds of \$200 million.

### Note 11: Inventories

	1990	1989
Crude oil, refined products and merchandise	\$ 907	\$ 615
Materials and supplies	57	62
	<u>\$ 964</u>	<u>\$ 677</u>

PETRO-CANADA  
(Formerly Petro-Canada Inc.)

# Notes to Consolidated Financial Statements

(stated in millions of dollars)

## Note 12: Investments

	1990	1989
At equity		
Westcoast Energy Inc.	\$ 353	\$ 293
Petro-Canada Centre	92	94
Other	28	42
At cost		
Mortgages and other investments	31	38
	<u>\$ 504</u>	<u>\$ 467</u>

### Westcoast Energy Inc. ("Westcoast")

At December 31, 1990 the Company held approximately 37% (1989 - 37%) of the outstanding common shares of Westcoast with a quoted market value of \$453 million (1989 - \$378 million).

### Petro-Canada Centre

The Company owns 50% of Petro-Canada Centre, an office complex in Calgary. The Company has entered into a long-term lease for use of a portion of the complex and, as at December 31, 1990, has provided support for a guarantee of \$230 million of long-term debt related to the facility.

## Note 13: Property, Plant and Equipment

	1990			1989			1990	1989
	Cost	Accumulated Depreciation, Depletion and Amortization	Net	Cost	Accumulated Depreciation, Depletion and Amortization	Net	Capital Expenditures	
<b>Natural resources</b>								
Oil and gas								
Canada	\$ 3 680	\$ 1 072	\$ 1 697	\$ 3 746	\$ 2 030	\$ 1 716	\$ 237	\$ 187
Foreign	50	5	15	87	57	30	5	22
Oil sands								
Syncrude Project	767	267	590	764	173	591	23	13
Other	207	207	-	212	212	-	5	7
Natural gas liquids	220	106	114	217	103	114	11	4
Other	17	55	21	76	53	23	1	3
	<u>4 680</u>	<u>2 398</u>	<u>2 437</u>	<u>5 102</u>	<u>2 628</u>	<u>2 474</u>	<u>282</u>	<u>236</u>
<b>Refined products</b>								
Refining	1 080	370	1 259	1 762	495	1 267	89	115
Marketing and other	1 060	248	814	950	198	752	132	94
	<u>2 080</u>	<u>618</u>	<u>2 073</u>	<u>2 712</u>	<u>693</u>	<u>2 019</u>	<u>221</u>	<u>209</u>
<b>Other property, plant and equipment</b>								
	500	260	268	322	189	133	29	25
	<u>\$ 8 460</u>	<u>\$ 3 623</u>	<u>\$ 4 778</u>	<u>\$ 8 136</u>	<u>\$ 3 510</u>	<u>\$ 4 626</u>	<u>\$ 532</u>	<u>\$ 470</u>

Capital expenditures include \$2 million (1989 - \$nil) of capitalized interest.



**Notes to Consolidated Financial Statements**

(stated in millions of dollars)

**Note 14: Other Assets**

	1990	1989
At cost		
Oil sands overburden removal costs	\$ 47	\$ 43
Less portion related to oil sands to be mined within one year	21	18
	26	25
Deferred pension funding	32	36
At amortized cost		
Goodwill	72	1
Deferred financing costs	18	17
Other	27	14
	<u>\$ 175</u>	<u>\$ 93</u>

**Note 15: Long-Term Debt**

	Maturity	1990	1989
In Canadian dollars			
8.25% unsecured notes		\$ -	\$ 11
In United States dollars			
7.75% unsecured notes		-	14
9% unsecured notes		-	26
LIBOR less 0.8% unsecured notes (U.S. \$125 million)	1995	145	144
7.25% unsecured debentures (U.S. \$200 million) <sup>1</sup>	1996	232	232
9.50% unsecured debentures (U.S. \$200 million) <sup>1</sup>	2003	232	232
8.60% unsecured debentures (U.S. \$300 million) <sup>1</sup>	2010	348	-
8.25% unsecured debentures (U.S. \$200 million) <sup>1</sup>	2016	232	232
9.70% unsecured debentures (U.S. \$100 million) <sup>1</sup>	2018	116	115
8.80% unsecured debentures (U.S. \$200 million) <sup>1</sup>	2019 <sup>2</sup>	232	232
		<u>1 537</u>	<u>1 238</u>
Less current portion		-	6
		<u>\$ 1 537</u>	<u>\$ 1 232</u>

<sup>1</sup> Due to Petro-Canada Limited (Note 19).<sup>2</sup> Redeemable in 2004 at the option of the holder thereof.

The minimum repayment of long-term debt in the next five years is \$145 million in 1995.

**Note 16: Deferred Credits**

	1990	1989
Translation adjustment on long-term debt	\$ 100	\$ 114
Advances on future natural gas deliveries	49	69
Long-term liabilities	42	48
	<u>\$ 191</u>	<u>\$ 231</u>

**Notes to Consolidated Financial Statements**

(stated in millions of dollars)

**Note 17: Shareholder's Equity**

	1990	1989
Common shares	\$ 1	\$ 1 000
Contributed surplus	2 572	1 550
Retained earnings (deficit)	98	(173)
	<u>\$ 2 671</u>	<u>\$ 2 377</u>

The authorized share capital of the Company is comprised of an unlimited number of:

- (a) Canadian dollar cumulative, redeemable, preferred shares without nominal or par value;
- (b) U.S. dollar cumulative, redeemable, preferred shares without nominal or par value;
- (c) Class A non-cumulative, non-voting, preferred shares without nominal or par value; and
- (d) Common shares without nominal or par value.

Changes in Share Capital and Contributed Surplus were as follows:

	1990			1989		
	Common Shares		Contributed Surplus	Common Shares		Contributed Surplus
	Shares	Amount		Shares	Amount	
Balance at beginning of year	4 216 011	\$ 1 000	\$ 1 550	4 216 011	\$ 1 000	\$ 2 537
Issued for cash	189 910	158	-	-	-	-
Reduction of stated capital	-	(1 157)	1 157	-	-	-
Transfer to retained earnings	-	-	(135)	-	-	(987)
Balance at end of year	<u>4 405 921</u>	<u>\$ 1</u>	<u>\$ 2 572</u>	<u>4 216 011</u>	<u>\$ 1 000</u>	<u>\$ 1 550</u>

In 1989 the Company approved the adoption of the successful efforts method of accounting which resulted in a decrease in retained earnings to a deficit of \$987 million as at January 1, 1989. An amount of \$987 million was transferred from contributed surplus to retained earnings to offset this deficit.

In October 1990 a reduction in the common share stated capital of \$1 157 million and a corresponding increase in contributed surplus, together with a transfer from contributed surplus to retained earnings, were approved. The transfer from contributed surplus to retained earnings offset a deficit of \$135 million.

In January 1991 the Company issued 37 415 common shares for a cash consideration of \$31 million to Petro-Canada Limited, thereby increasing the number of issued common shares to 4 443 336.

In January 1991 the Company approved articles which amended its authorized share capital so as to provide for an unlimited number of:

- (a) Preferred shares issuable in series designated as Senior Preferred Shares;
- (b) Preferred shares issuable in series designated as Junior Preferred Shares; and
- (c) Common shares.

**Note 18: Pension Plans**

The Company's plans are defined benefit plans with the benefits generally based upon years of service and average salary during the final years of employment. They are funded by the Company based upon the advice of an independent actuary.

Plan Status as at December 31

	1990	1989
Actuarial value of assets	\$ 588	\$ 536
Pension obligation	527	508
Net pension asset	<u>\$ 61</u>	<u>\$ 28</u>

The net pension asset is amortized to earnings over the expected average remaining service life of the employees covered by the plans, which is currently 13 years.

Pension funding and expense amounted to \$9 million (1989 - \$31 million) and \$12 million (1989 - \$20 million), respectively.

**Notes to Consolidated Financial Statements**

(stated in millions of dollars)

**Note 19: Related Party Transactions**

The Company has short-term notes payable, advances and long-term debt (Note 15) payable to Petro-Canada Limited, the former parent company (Note 2), and is negotiating with the Government of Canada to provide for the servicing and refinancing of this indebtedness.

Transactions with the Government of Canada and its agencies are in the normal course of business and are therefore on the same terms as those accorded to non-related parties.

**Note 20: Segmented Information**

The Company operates in two business segments:

Natural Resources, comprising: exploration, development, production, transportation and marketing activities for crude oil, natural gas, field liquids, sulphur and oil sands; and extraction of liquids from natural gas.

Refined Products, comprising: purchase and sale of crude oil; refining crude oil into oil products; and distribution and marketing of these and other purchased products.

Financial information by business segment is presented in the following table as though each segment were a separate business entity. Inter-segment transfers of products, which are accounted for at market value, are eliminated on consolidation. Corporate and Other includes propane marketing, investment income, interest expense and unallocated general corporate revenues and expenditures. Corporate and Other assets are principally cash and short-term deposits, investments in other companies, propane marketing assets and general corporate assets.

	Natural Resources		Refined Products		Corporate and Other		Consolidated	
	1990	1989	1990	1989	1990	1989	1990	1989
<b>Revenue</b>								
Sales to customers and other revenues	\$ 506	\$ 511	\$ 4 934	\$ 4 442	\$ 433	\$ 73	\$ 5 873	\$ 5 026
Inter-segment sales	808	640	14	-	-	-		
<b>Segment Revenue</b>	<b>\$ 1 314</b>	<b>\$ 1 151</b>	<b>\$ 4 948</b>	<b>\$ 4 442</b>	<b>\$ 433</b>	<b>\$ 73</b>		
<b>Earnings</b>								
Operating earnings (loss) before the following:	\$ 678	\$ 527	\$ 377	\$ 339	\$ 54	\$ (79)	\$ 1 109	\$ 787
Depreciation, depletion and amortization	(187)	(244)	(155)	(147)	(31)	(5)	(373)	(396)
Exploration expense	(111)	(98)	-	-	-	-	(111)	(98)
Interest	-	-	-	-	(278)	(222)	(278)	(222)
Provision for income taxes	(177)	(96)	(96)	(88)	107	133	(166)	(51)
<b>Net Earnings (Loss)</b>	<b>\$ 203</b>	<b>\$ 89</b>	<b>\$ 126</b>	<b>\$ 104</b>	<b>\$ (148)</b>	<b>\$ (173)</b>	<b>\$ 181</b>	<b>\$ 20</b>
<b>Capital and Exploration Expenditures</b>								
Property, plant and equipment and exploration expenditures	\$ 393	\$ 334	\$ 221	\$ 209	\$ 29	\$ 25	\$ 643	\$ 568
Investments	-	-	1	(1)	49	(75)	50	(76)
Other assets	2	4	10	3	5	11	17	18
Acquisitions	-	-	-	-	235	-	235	-
	<b>\$ 395</b>	<b>\$ 338</b>	<b>\$ 232</b>	<b>\$ 211</b>	<b>\$ 318</b>	<b>\$ (39)</b>	<b>\$ 945</b>	<b>\$ 510</b>
<b>Total Assets</b>	<b>\$ 2 724</b>	<b>\$ 2 733</b>	<b>\$ 3 694</b>	<b>\$ 3 406</b>	<b>\$ 860</b>	<b>\$ 604</b>	<b>\$ 7 278</b>	<b>\$ 6 743</b>
<b>Capital Employed</b>	<b>\$ 2 474</b>	<b>\$ 2 498</b>	<b>\$ 2 964</b>	<b>\$ 2 822</b>	<b>\$ 663</b>	<b>\$ 203</b>	<b>\$ 6 101</b>	<b>\$ 5 523</b>

**Notes to Consolidated Financial Statements**

(stated in millions of dollars)

**Note 21: Comparative Figures**

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Certain reclassifications have been made to the 1989 comparative figures to conform with the current year's presentation.

**Note 22: Commitments and Contingent Liabilities**

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**Commitments**

(a) The Company has leased property and equipment under various long-term operating leases for periods up to 2009. The minimum annual rentals for non-cancellable operating leases are estimated at \$115 million in 1991, \$108 million in 1992, \$83 million in 1993, \$68 million in 1994, \$56 million in 1995 and \$34 million per year thereafter until 2009.

(b) During 1990 the Company signed agreements with other joint venture participants and with the governments of Canada and Newfoundland and Labrador to develop the Hibernia offshore oil field. Costs of this project to production start-up, which is expected in 1996, are estimated at \$5.2 billion; the Company's 25% share after government contributions is expected to be approximately \$1.1 billion. It is anticipated that total development costs subsequent to production start-up, estimated at approximately \$3.4 billion, will be financed from cash flow from the Hibernia project.

**Contingent Liabilities**

The Company is involved in litigation and claims associated with normal operations. Management is of the opinion that any resulting settlements would not materially affect the financial position of the Company.



## Operations Information

### Reserves

(proved reserves, net after royalties)

	1990			1989		
	Developed	Undeveloped	Total	Developed	Undeveloped	Total
Crude oil and field natural gas liquids (millions of barrels)						
Conventional crude oil	149.1	39.6	188.7	174.4	11.1	185.5
Synthetic and bitumen	207.6	—	207.6	194.6	18.0	212.6
Field natural gas liquids	33.4	4.8	38.2	32.1	3.5	35.6
Total	390.1	44.4	434.5	401.1	32.6	433.7
Natural gas (billions of cubic feet)	1 726.8	738.3	2 465.1	2 031.1	669.8	2 700.9
	1990			1989		
	Conventional Oil and NGLs (millions of barrels)	Synthetic and Bitumen (millions of barrels)	Natural Gas (billions of cubic feet)	Conventional Oil and NGLs (millions of barrels)	Synthetic and Bitumen (millions of barrels)	Natural Gas (billions of cubic feet)
Balance, beginning of year	221.1	212.6	2 700.9	234.1	249.4	2 812.2
Revisions of previous estimates	(2.3)	5.7	(171.1)	8.4	(26.6)	33.2
Extension and discoveries	2.6	—	82.7	3.3	—	38.1
Improved recovery methods	25.8	—	0.4	3.2	—	—
Purchases	19.7	—	94.6	(7.8)	—	20.3
Sales	(21.0)	—	(98.4)	0.9	—	(34.2)
Production	(19.0)	(10.7)	(144.0)	(21.0)	(10.2)	(168.7)
Balance, end of year	226.9	207.6	2 465.1	221.1	212.6	2 700.9

#### Notes:

- When booked, Hibernia will add at least 131 million barrels (before royalties) to Petro-Canada's proved oil reserves.
- Reserve quantities in the Annual Report, excluding synthetic crude oil, are reported based on estimates consistent with the knowledge of the characteristics and extent of underlying productive formations at each year-end, but are subject to upward or downward revisions as additional information regarding producing fields becomes available, as technology improves and as economic conditions change.

- The above figures include Petro-Canada's 17 per cent interest in the synthetic crude oil reserves of Syncrude. These reserves are based on the demonstrated production capacity of the Syncrude plant calculated over the remaining term of the current operating permit to the year 2013. The Syncrude project is subject to a royalty agreement between the Province of Alberta and the Syncrude participants whereby the Province has the right to 50 per cent of Syncrude's deemed net profit. The Province has an option to convert its royalty to a 7.5 per cent gross overriding royalty. The net after royalty reserves of Syncrude are based on an estimated average royalty rate for the life of the project using current prices and operating costs.

### Oil and Gas Landholdings (gross/net)

(millions of acres)

	1990			1989		
	Developed	Undeveloped	Total	Developed	Undeveloped	Total
Alberta	3.3/1.3	3.4/1.6	6.7/2.9	3.7/1.5	3.8/1.8	7.5/3.3
British Columbia	0.8/0.5	1.1/0.7	1.9/1.2	0.9/0.5	1.2/0.8	2.1/1.3
Saskatchewan and other	0.3/0.1	0.6/0.4	0.9/0.5	0.2/0.1	0.6/0.5	0.8/0.6
Frontier Canada	-/-	14.1/11.1	14.1/11.1	-/-	15.1/11.4	15.1/11.4
International	-/-	17.9/9.9	17.9/9.9	-/-	11.7/6.7	11.7/6.7
Total	4.4/1.9	37.1/23.7	41.5/25.6	4.8/2.1	32.4/21.2	37.2/23.3

**Operations Information****Principal Reserve Locations**

Conventional Oil		Natural Gas	
Field	% of proved reserves at December 31, 1990	Field	% of reserves at December 31, 1990
Golden Lake, Saskatchewan	19	Hanlan, Alberta	14
Valhalla, Alberta	10	Yoyo, British Columbia	8
Pembina, Alberta	8	Medicine Hat, Alberta	5
Bellshill Lake, Alberta	7	Ricinus, Alberta	5
Nipisi, Alberta	6	Laprise, British Columbia	4
		Gilby, Alberta	4
		Brazeau, Alberta	4
		Whitecourt, Alberta	3
		Hatton, Saskatchewan	3
		Wildcat Hills, Alberta	3
	<u>50</u>		<u>53</u>

**Principal Production Locations**

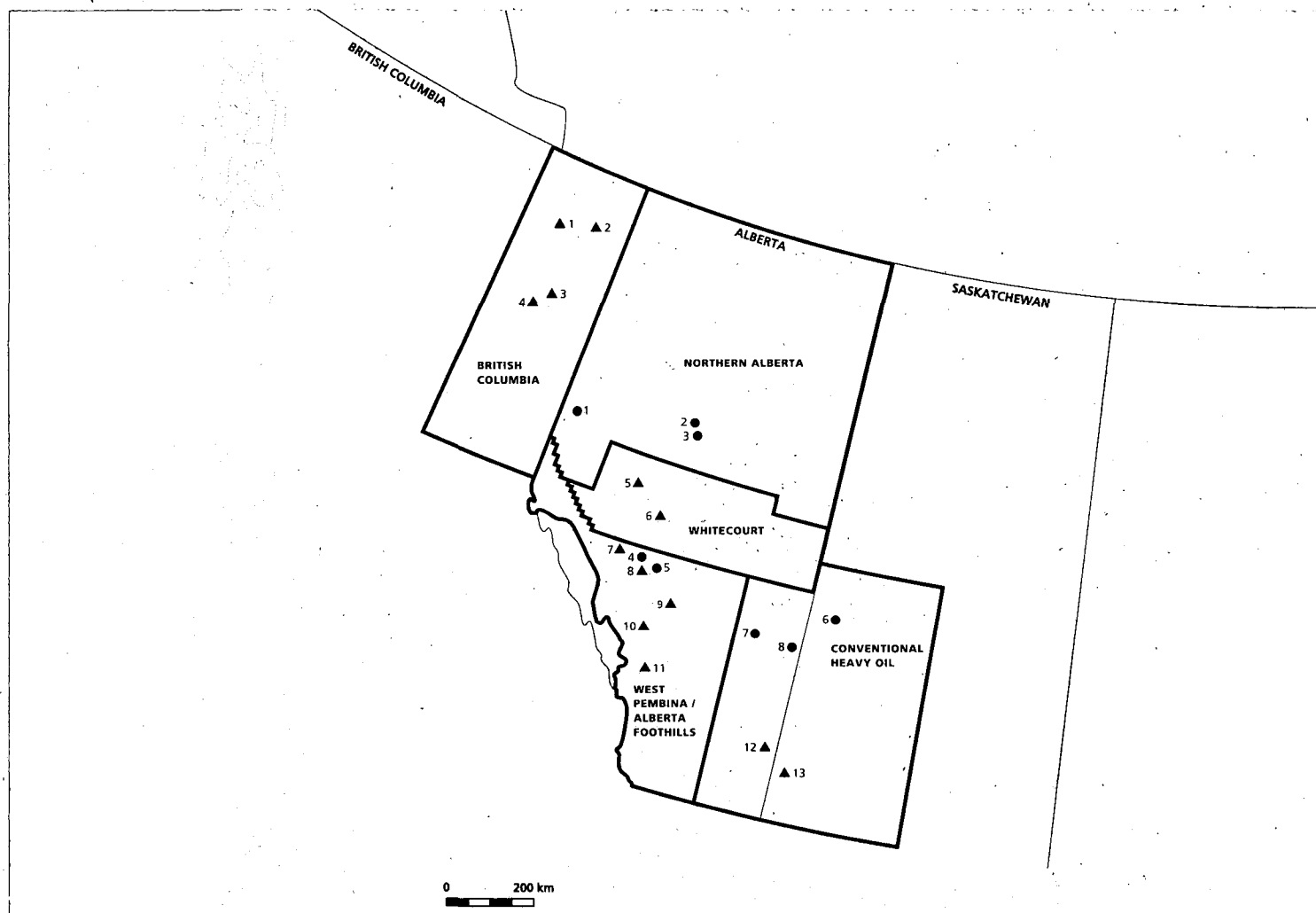
Conventional Oil		Natural Gas	
Field	% of 1990 production	Field	% of 1990 production
Bellshill Lake, Alberta	14	Hanlan, Alberta	14
Valhalla, Alberta	9	Yoyo, British Columbia	12
Utikuma, Alberta	8	Whitecourt, Alberta	7
Nipisi, Alberta	6	Laprise, British Columbia	5
Provost, Alberta	5	Clarke Lake, British Columbia	5
Pembina, Alberta	5	Medicine Hat, Alberta	4
Brazeau, Alberta	5	Jedney, British Columbia	3
		Kaybob South, Alberta	3
	<u>52</u>		<u>53</u>

**Productive Wells (gross/net)<sup>1</sup>**

	Crude Oil Wells	Natural Gas Wells	Total Wells
		at December 31, 1990	
Conventional			
– Western provinces	6 681/1 964	2 625/977	9 306/2 941
In situ bitumen	400/200	–/–	400/200

Note:  
1. Of the wells shown, 188 gross (19 net) crude oil wells and 196 gross (59 net) natural gas wells have multiple completions. Wells with multiple completions are counted as one well.

## Operations Information



### Principal reserve and production locations in Western Canada

● Oil reserve and production locations

▲ Natural gas reserve and production locations

■ Value centres

- 1 Valhalla
- 2 Utikuma
- 3 Nipisi
- 4 Brazeau
- 5 Pembina
- 6 Golden Lake
- 7 Bellshill Lake
- 8 Provost

- 1 Clarke Lake
- 2 Yoyo
- 3 Laprise
- 4 Jedney
- 5 Kaybob South
- 6 Whitecourt
- 7 Hanlan
- 8 Brazeau
- 9 Gilby
- 10 Ricinus
- 11 Wildcat Hills
- 12 Medicine Hat
- 13 Hatton

British Columbia  
Northern Alberta  
Whitecourt  
West Pembina/Alberta Foothills  
Conventional Heavy Oil (renamed Eastern in 1991)

## Operations Information

### Refining and Supply Discussion

- Petro-Canada's refineries produce a full slate of petroleum products, including gasoline, aviation fuels, heating oils, heavy fuel oils, kerosene and stove oils.
- The Mississauga plant of the Lake Ontario refinery produces a wide range of lubricating oils and limited volumes of other petroleum products. The Montreal refinery produces in addition to petroleum products a limited quantity of petrochemical feedstocks and solvents. The Edmonton refinery has the capability to process 6 600 cubic metres per day of synthetic crude oil.
- Petro-Canada obtains its crude oil and other refinery feedstock requirements primarily from purchases in domestic markets. Petro-Canada's Western Canada upstream production represents 31 per cent of the Company's refinery requirements.
- Petro-Canada is party to a number of long-term processing agreements. Under these agreements, the Company refines crude oil on a fee basis for other industry participants or other refiners provide similar service to Petro-Canada.

### Refining by Locations

	Average Daily Volume of Crude Oil Processed		Daily Rated Capacity <sup>1,2</sup> at December 31		Average Utilization Rate	
	1990	1989	1990	1989	1990	1989
	(thousands of cubic metres)				(per cent)	
Lake Ontario, Ontario	15.2	17.0	19.4	19.4	78	88
Edmonton, Alberta <sup>3</sup>	13.9	15.6	18.4	18.4	76	85
Montreal, Quebec	12.2	11.8	13.9	13.9	88	85
Taylor, British Columbia <sup>4</sup>	2.3	2.1	2.5	2.5	92	84
Total	43.6	46.5	54.2	54.2	80	86

### Supply Information

	Average Daily Volume	
	1990	1989
	(thousands of cubic metres)	
Net domestic supply <sup>5</sup>	36.1	40.1
Net foreign purchases	7.5	6.4
Processed by Petro-Canada	43.6	46.5
Processed for others	(12.4)	(13.4)
Processed by others	10.6	10.6
Total Petro-Canada requirements	41.8	43.7

#### Notes:

1. Daily rated capacities are based on calendar days and definite specifications as to types of crude oil, the products to be obtained and the refinery processes required. Variations in these factors may result in actual capacities being higher or lower than rated capacities.

2. Crude oil processed at the refineries includes volumes processed by Petro-Canada for other companies.

3. In 1989 and 1990, the Edmonton refinery processed sufficient crude to supply the Port Moody, British Columbia, facility with 3 400 cubic metres per day of partially processed feedstocks.

4. To be closed July 1991.

5. Net domestic supply consists of Petro-Canada's net domestic production plus purchases of domestic crude oil less the Company's domestic and export sales of crude oil. In addition, it includes crude oil supplied by others for processing.



PETRO-CANADA  
(Formerly Petro-Canada Inc.)

## Five Year Financial and Operating Summary

(stated in millions of dollars, unless otherwise indicated)

<b>Consolidated</b>	<b>1990</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>	<b>1986</b>
<b>Summary of Earnings</b>					
Revenue	\$ 5 873	\$ 5 026	\$ 4 801	\$ 5 079	\$ 5 172
Expenses	5 526	4 955	4 798	4 767	4 934
	347	71	3	312	238
Provision for income taxes	166	51	47	179	172
Net earnings (loss) before dividends on redeemable preferred shares	181	20	(44)	133	66
Dividends on redeemable preferred shares	-	-	10	41	59
Net earnings (loss) after dividends on redeemable preferred shares	\$ 181	\$ 20	\$ (54)	\$ 92	\$ 7
<b>Summary of Statement of Changes in Financial Position</b>					
Operating activities					
Cash flow from operations	\$ 621	\$ 452	\$ 607	\$ 767	\$ 709
Other	(20)	(26)	(23)	(11)	(17)
(Increase) decrease in operating working capital	(307)	(22)	270	(173)	446
	294	404	854	583	1 138
Investing activities	(689)	(392)	(850)	(586)	(782)
Financing activities and dividends	404	(69)	72	104	(411)
Increase (decrease) in cash	\$ 9	\$ (57)	\$ 76	\$ 101	\$ (55)
<b>Summary of Balance Sheet</b>					
Assets					
Current assets	\$ 1 821	\$ 1 557	\$ 1 420	\$ 1 676	\$ 1 472
Property, plant and equipment, net	4 778	4 626	4 617	4 492	4 633
Investments and deferred charges	679	560	622	577	432
Total	\$ 7 278	\$ 6 743	\$ 6 659	\$ 6 745	\$ 6 537
Liabilities and shareholder's equity					
Current liabilities					
Short-term debt	\$ 705	\$ 716	\$ 974	\$ 319	\$ 13
Other current liabilities	1 177	1 220	1 050	1 124	1 200
Long-term debt	1 537	1 232	1 036	744	805
Deferred credits	191	231	211	189	198
Deferred income taxes	997	967	986	985	882
Redeemable preferred shares	-	-	-	831	922
	4 607	4 366	4 257	4 192	4 020
Shareholder's equity	2 671	2 377	2 402	2 553	2 517
Total	\$ 7 278	\$ 6 743	\$ 6 659	\$ 6 745	\$ 6 537
<b>Average Capital Employed</b>	<b>\$ 5 812</b>	<b>\$ 5 566</b>	<b>\$ 5 615</b>	<b>\$ 5 479</b>	<b>\$ 5 445</b>

PETRO-CANADA  
(Formerly Petro-Canada Inc.)

## Five Year Financial and Operating Summary

(stated in millions of dollars unless otherwise indicated)

	1990	1989	1988	1987	1986
<b>Financial Indicators</b> (per cent)					
<b>Performance</b>					
Cash flow return on capital employed	13.6	10.4	12.3	14.9	13.8
Return on capital employed	6.0	2.7	0.7	3.3	2.0
Return on equity	7.2	0.8	(2.2)	3.8	0.3
<b>Liquidity and Leverage</b>					
Current ratio (times)	1.0	0.8	0.7	1.2	1.2
Cash flow to debt	27.7	23.2	29.7	36.6	34.1
Interest coverage (times)					
– earnings basis	2.2	1.3	0.8	2.3	1.6
– cash flow basis	3.7	3.3	4.6	5.4	4.4
Debt to capital employed	36.7	35.3	35.8	35.3	35.7
Debt to debt plus equity	45.6	45.0	45.6	44.6	44.7
<b>Expenditures on Property, Plant and Equipment and Exploration</b>					
Resources division	\$ 393	\$ 343	\$ 612	\$ 340	\$ 487
Products division	221	209	161	122	118
Corporate and other	29	25	29	29	20
	643	577	802	491	625
Petroleum Incentive Program grants	–	9	–	5	166
Total	\$ 643	\$ 568	\$ 802	\$ 486	\$ 459
<b>Acquisitions</b>	\$ 235	\$ –	\$ –	\$ –	\$ 301
<b>Reinvestment Ratio</b>	1.11	0.87	1.42	0.81	1.20
<b>Employees</b> (number at year end)					
Petro-Canada	6 353	6 468	7 373	7 204	7 740
ICG Propane Inc.	1 488	–	–	–	–
Other subsidiaries	1 965	2 329	2 345	2 102	1 482
Total	9 806	8 797	9 718	9 306	9 222
<b>Resources Division</b>					
<b>Annual Operating Revenues</b>					
<b>Crude oil and field natural gas liquids</b>					
Conventional crude oil	\$ 379	\$ 356	\$ 307	\$ 413	\$ 336
Synthetic and bitumen	275	207	175	211	180
Field natural gas liquids	66	48	46	57	50
	720	611	528	681	566
Natural gas	221	246	222	203	219
Sulphur	17	21	23	25	31
Natural gas liquids from straddle plants including ethane	200	167	152	145	192
Other	156	106	64	84	72
Total	\$ 1 314	\$ 1 151	\$ 989	\$ 1 138	\$ 1 080

PETRO-CANADA  
(Formerly Petro-Canada Inc.)

# Five Year Financial and Operating Summary

(stated in millions of dollars unless otherwise indicated)

	1990	1989	1988	1987	1986
<b>Earnings</b>	<b>\$ 203</b>	<b>\$ 89</b>	<b>\$ (108)</b>	<b>\$ 93</b>	<b>\$ (51)</b>
<b>Cash Flow from Operations</b>	<b>\$ 480</b>	<b>\$ 374</b>	<b>\$ 406</b>	<b>\$ 566</b>	<b>\$ 408</b>
<b>Expenditures on Property, Plant and Equipment and Exploration</b>					
Exploration					
Frontier	\$ 14	\$ 7	\$ 47	\$ 36	\$ 237
Western provinces	90	99	129	101	62
International	45	51	23	12	11
Development					
Frontier	15	5	7	5	8
Western provinces	201	133	265	107	104
International	-	8	3	-	1
Oil sands					
Syncrude	23	13	42	44	47
Other	5	27	96	35	17
	<b>393</b>	<b>343</b>	<b>612</b>	<b>340</b>	<b>487</b>
Petroleum Incentive Program grants	-	9	-	5	166
Total	<b>\$ 393</b>	<b>\$ 334</b>	<b>\$ 612</b>	<b>\$ 335</b>	<b>\$ 321</b>
<b>Daily Production</b> <b>(net, before royalties/after royalties)</b>					
Crude oil (thousands of barrels)					
Conventional crude oil	52.0/42.9	59.1/48.5	63.2/51.0	63.5/50.7	63.5/50.5
Synthetic and bitumen	30.1/29.5	28.4/27.8	28.6/28.1	26.6/26.0	25.5/25.0
Field natural gas liquids	12.2/9.2	12.9/9.5	13.4/9.7	13.2/10.0	13.2/9.6
Total	<b>94.3/81.6</b>	<b>100.4/85.8</b>	<b>105.2/88.8</b>	<b>103.3/86.7</b>	<b>102.2/85.1</b>
Natural gas liquids production from straddle plants including ethane (thousands of barrels)	42.4/42.4	44.8/44.8	40.4/40.4	39.6/39.6	40.9/40.9
Natural gas (millions of cubic feet)					
including injectants (Note 3)	497.5	573.1	485.2	434.8	358.7
excluding injectants	484.0/394.7	556.4/448.4	471.5/382.1	424.9/342.9	354.8/283.6
Sulphur (thousands of tons)	1.1/0.9	1.0/0.8	1.0/0.8	0.9/0.8	0.8/0.7
Average sale prices					
Conventional crude oil, bitumen and field natural gas liquids (\$ per barrel)	23.00	18.58	15.49	20.83	17.33
Natural gas (\$ per thousand cubic feet)	1.53	1.48	1.60	1.62	2.11
Average lifting cost (\$ per barrel of oil equivalent)	4.28	4.04	4.10	3.88	4.51
<b>Proved Reserves</b> <b>(net, before royalties/after royalties)</b>					
Crude oil and field natural gas liquids (millions of barrels)					
Conventional crude oil	223.2/188.7	227.6/185.5	248.2/196.8	236.6/187.5	248.7/194.8
Synthetic and bitumen	243.3/207.6	250.2/212.6	289.8/249.4	280.9/241.8	289.1/248.8
Field natural gas liquids	52.2/38.2	50.5/35.6	53.7/37.3	45.5/31.3	47.9/33.1
Total	<b>518.7/434.5</b>	<b>528.3/433.7</b>	<b>591.7/483.5</b>	<b>563.0/460.6</b>	<b>585.7/476.7</b>
Natural gas (trillions of cubic feet)	3.0/2.5	3.4/2.7	3.5/2.8	3.4/2.8	3.4/2.7
Sulphur (millions of tons)	6.2/5.3	5.8/4.9	6.2/5.2	5.2/4.3	3.4/2.8

PETRO-CANADA  
(Formerly Petro-Canada Inc.)

### Five Year Financial and Operating Summary

(stated in millions of dollars unless otherwise indicated)

	1990	1989	1988	1987	1986
<b>Oil and Gas Landholdings (gross/net)</b>					
(millions of acres)					
Canadian provinces	9.5/4.6	10.4/5.2	11.0/5.4	10.9/5.3	12.2/5.9
Frontier Canada	14.1/11.1	15.1/11.4	16.2/11.8	19.7/13.5	35.1/19.7
International	17.9/9.9	11.7/6.7	9.6/3.6	3.2/1.7	2.9/1.2
Total	<u>41.5/25.6</u>	<u>37.2/23.3</u>	<u>36.8/20.8</u>	<u>33.8/20.5</u>	<u>50.2/26.8</u>
<b>Wells drilled (gross/net)</b>					
Canadian provinces – exploration wells					
Oil	3/1	9/9	16/13	18/11	18/11
Natural gas	8/6	18/16	31/25	9/5	31/14
Dry	14/12	23/20	29/21	30/23	31/20
	<u>25/19</u>	<u>50/45</u>	<u>76/59</u>	<u>57/39</u>	<u>80/45</u>
Canadian provinces – development wells					
Oil	67/24	93/22	164/88	196/73	264/46
Natural gas	83/28	58/26	87/38	40/26	31/10
Oil sands	-/-	20/6	266/133	75/38	5/2
Dry	7/4	8/4	11/6	19/13	12/6
	<u>157/56</u>	<u>179/58</u>	<u>528/265</u>	<u>330/150</u>	<u>312/64</u>
Frontier Canada – exploration wells					
Oil	-/-	1/-	2/1	3/1	9/2
Natural gas	-/-	1/-	1/-	-/-	9/3
Dry	3/2	-/-	3/1	4/2	11/5
	<u>3/2</u>	<u>2/-</u>	<u>6/2</u>	<u>7/3</u>	<u>29/10</u>
International – exploration and development wells					
Oil	1/1	2/1	1/1	-/-	-/-
Natural gas	-/-	-/-	-/-	-/-	-/-
Dry	9/4	4/2	3/1	2/-	6/-
	<u>10/5</u>	<u>6/3</u>	<u>4/2</u>	<u>2/-</u>	<u>6/-</u>
Total	<u>195/82</u>	<u>237/106</u>	<u>614/328</u>	<u>396/192</u>	<u>427/119</u>

### Products Division

#### Annual Operating Revenues

Gasolines	\$ 2 395	\$ 2 117	\$ 2 050	\$ 2 240	\$ 2 280
Distillates	1 475	1 303	1 284	1 384	1 549
Other including petrochemicals	1 078	1 022	911	837	759
Total	<u>\$ 4 948</u>	<u>\$ 4 442</u>	<u>\$ 4 245</u>	<u>\$ 4 461</u>	<u>\$ 4 588</u>

#### Earnings

\$ 126	\$ 104	\$ 102	\$ 95	\$ 115
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#### Cash Flow from Operations

\$ 258	\$ 237	\$ 230	\$ 294	\$ 306
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#### Expenditures on Property, Plant and Equipment

Refining	\$ 89	\$ 115	\$ 82	\$ 49	\$ 61
Marketing	73	94	79	73	57
MTBE plant	59	-	-	-	-
Total	<u>\$ 221</u>	<u>\$ 209</u>	<u>\$ 161</u>	<u>\$ 122</u>	<u>\$ 118</u>



## Board of Directors

†\***Wilbert (Bill) H. Hopper, O.C.**  
Chairman  
and Chief Executive Officer  
Petro-Canada  
Calgary, Alberta

†**James M. Stanford**  
President  
and Chief Operating Officer  
Petro-Canada  
Calgary, Alberta  
(appointed April 1990)

†**Edward M. Lakusta**  
President  
and Chief Operating Officer  
Petro-Canada  
Calgary, Alberta  
(retired April 1990)

†**Alfred E. Barroll**  
President  
A.E. Barroll Resource  
Consultants Ltd.  
Calgary, Alberta

**H. Reuben Cohen, O.C., Q.C.**  
Barrister and Solicitor  
Moncton, New Brunswick

**Harbanse S. Doman**  
President and Chairman  
of the Board  
Doman Industries Limited  
Duncan, British Columbia

**Anne R. Dubin, Q.C.**  
Senior Partner  
Tory, Tory, DesLauriers  
and Binnington  
Barristers and Solicitors  
Toronto, Ontario

†**William McBurney Elliott, Q.C.**  
Counsel  
MacPherson, Leslie and Tyerman  
Barristers and Solicitors  
Regina, Saskatchewan

\***Claude Fontaine**  
Senior Partner  
Ogilvy, Renault  
Barristers and Solicitors  
Montreal, Québec

**The Hon. William H. Jarvis, P.C., Q.C.**  
McCarthy Tétrault  
Ottawa, Ontario  
(appointed December 1990)

**John H. Lundrigan**  
President  
Lundrigan Consulting Services Limited  
St. John's, Newfoundland

\***Helen M. Meyer**  
President  
Meyer Corporate Valuations Ltd.  
Toronto, Ontario

\***Jocelyne Pelchat**  
President  
Pelchat International  
Montreal, Quebec

†**David E. Read**  
President  
Read Restaurants Ltd.  
Dartmouth, Nova Scotia

†**William W. Siebens**  
President  
Candor Investments Ltd.  
Calgary, Alberta

\***Arni C. Thorsteinson**  
President  
Shelter Canadian Holdings Limited  
Winnipeg, Manitoba

**Walter P. Twinn**  
Business Manager  
Sawridge Indian Band  
Slave Lake, Alberta  
(resigned September 1990)

\* Audit Committee member  
† Executive Committee member

These directors served during 1990 on the  
Board of Petro-Canada Limited (formerly  
Petro-Canada).

The Board of Directors of Petro-Canada  
(formerly Petro-Canada Inc.) during 1990  
consisted of executives of the Company.  
The Petro-Canada Public Participation Act  
provides for the appointment of a new  
board for Petro-Canada.

## Senior Officers

**Wilbert (Bill) H. Hopper, O.C.**  
Chairman  
and Chief Executive Officer

**James M. Stanford**  
President  
and Chief Operating Officer  
President  
Petro-Canada Products Division

**James Pantelidis**  
President  
Petro-Canada Resources Division

**Wesley R. Twiss**  
Senior Vice-President  
and Chief Financial Officer



SEATED: BILL HOPPER. STANDING (LEFT TO RIGHT): JIM STANFORD, JIM PANTELIDIS, WESLEY TWISS

PETRO-CANADA  
(Formerly Petro-Canada Inc.)

# **Five Year Financial and Operating Summary**

(stated in millions of dollars unless otherwise indicated)

	1990	1989	1988	1987	1986
<b>Marketing</b>					
Petroleum product sales					
(thousands of cubic metres per day)					
Gasolines	19.4	20.1	19.4	20.3	20.3
Distillates	15.2	15.8	16.1	16.7	16.2
Other including petrochemicals	8.1	8.5	8.3	8.6	7.9
Total	42.7	44.4	43.8	45.6	44.4
Average sale prices for petroleum products (\$ per cubic metre)					
Gasolines	338	289	290	302	308
Distillates	266	226	218	227	262
Other including petrochemicals	365	329	301	267	263
Average of all products	317	274	266	268	283
Retail outlets at year end	3 205	3 295	3 429	3 677	3 844
<b>Refining</b>					
Refinery crude capacity at year end					
(thousands of cubic metres per day)	54.2	54.2	60.6	64.0	64.0
Crude oil processed by Petro-Canada					
(thousands of cubic metres per day)	43.6	46.5	48.5	48.4	47.2
Average refinery utilization (per cent) (Note 4)	80	86	77	76	74

## **ICG Propane Inc.**

Revenue	\$ 362
Earnings	5
Cash flow from operations	30
Expenditures on property, plant and equipment	16
Propane sales (millions of litres)	1 245

### **Notes:**

1. Financial and operating results include the operations of the Edmonton refinery from April 1, 1986.
2. Certain reclassifications have been made to the figures previously reported to reflect subsequent changes in reporting presentation.
3. Before royalties.
4. Average refinery utilization takes into account, where applicable, changes in refinery crude capacity that occurred during the year.

**Petro-Canada**

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**Supplementary Information**

A supplementary booklet, containing information that may assist in further analysis of the Company's results, is available on request. The booklet contains audited balance sheets as at December 31, 1990 and 1989, and audited statements of earnings, retained earnings and changes in financial position for each of the five years in the period ended December 31, 1990. Certain additional information is provided, in formats commonly used for filing with the United States Securities and Exchange Commission, to facilitate comparisons.

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